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When Thomas S. Kuhn published *The Structure of Scientific Revolutions* in 1962, his preface, introduction, and numerous traces in the body of the essay explicitly conveyed to the reader that the author thought he knew his readers, their general concept of science, of scientific questions, experiments, research, and of the universe in which their search for truth, consistency, and knowledge takes place. On the basis of this tacit assumption Kuhn explains his particular use of the word paradigm and develops a theory according to which, in any given period, some paradigms rule over all scientific endeavors, invisibly, unquestioned and tacitly agreed upon, and that radical change or progress, in any field of research, can only be registered and accepted if and when the presently ruling general notions of self-understood truth suddenly are revealed as being temporary assumptions and beliefs, respectable for their consistency, but incompatible with more recent and undeniable insights. In short: its greatest dynamic power is held by a paradigm while it is not called paradigm, but called facts, data, truth, nature, ethics, proper procedures, etc. As soon as a paradigm is called a paradigm (usually then referred to as a mere paradigm), its power collapses.

In Galileo’s time any person of integrity, honesty, decency, who was healthy in mind and body, knew that the sun circles the earth and that the stars are affixed to a slowly rotating crystal sphere. The philosophers speculated among themselves about meaning, symbolisms, teachings, and proofs for the existence of God, implied by these known and observable phenomena, but never questioned their universal truth. The scientists diligently did research, both analytical and synthetic, investigating the mechanics of the phenomena, and whether the stars were affixed with crystal screws, silver nails, or golden chains, and how the earth was held in its central place. It was a sin and crime, punished by law, church, and community vigilance, to ask and probe whether the known was true, whether philosophical thought and scientific research and problem-solving were based on all one could know.

Today’s philosophers and scientists do not sneer with contempt at those times. They know that the people then acted in keeping and in consequential consistency with all those of their assumptions and beliefs which they had either accepted or declared to be indisputable truths, never to be tested and questioned. They never suspected that these obvious truths, which were their standards for all decision making and judgements of conduct and ideas, could be erroneous interpretations of accurate observations or accurate interpretations of faulty observations. The second aspect of the matter, which hovers with dampering effect on all philosophical and scientific endeavors, is the knowledge that we today can not tell, by definition, within which paradigm we are dwelling, thinking and acting, unless and until we are able to observe us and it from the outside, just as we recognize it and us from outside the times of Galileo.

There are in Kuhn’s essay at least seventeen explanations, definitions, and descriptions of the word paradigm, as he particularly would use it. Every chapter is another significant variation on that theme. This essay told me among other things that, if I wish to uncover the paradigm which conditions my thinking, I might have to take a leap, to observe with fresh attention the anomalies in my environment rather than only its predictable loops. Having learned this from him, I was surprised that Kuhn consented, for the second edition, to write an immense postscript answering his critics, reasoning, almost apologizing, for his leap, as if any leap out of a loop could ever appear reasonable. I leave him to his dilemma, and, collecting all aspects he mentions with respect to his central theme, I shall use the word paradigm whenever I wish to speak of any structural notion and concept which, underlying the development of discourse, is tacitly taken for granted by all participants in that discourse, taken to go without saying and left unquestioned, regardless of whether the discourse leads to an agreement or a disagreement on any issue.

The history of mankind is a composite of many, often simultaneous histories of different societies, which retroactively tell the stories of paradigms, their inception, flourishing, and collapse; and how there always has been a new paradigm waiting to substitute for the collapsed one. These stories do not, however, sufficiently emphasize a recurrent and ubiquitous phenomenon. They occasionally mention it as a deplorable exception, occasionally as a successful defense of eternal truth. This phenomenon is best described as the inertia of language.

The inertia of language is both a symptom and a dynamic force. As a symptom it reflects the slowness with
which the news are disseminated that no longer should everything be taken for granted that for “time immemorial” has been taken for granted. As a friendly, almost poetic example, let me mention that our language still has the sun rise in the east and set in the west, although it has been known for 2000 years, scientifically proven 400 years ago, recently even admitted by the church, that it is our horizon which continuously rises in the west and dips in the east. No poet has yet taught language how to express these events in consistency with present knowledge as well as language learned it from a previous, now obsolete, knowledge. With sunrise and sunset, language preserves and reflects the geocentric paradigm. Due to this inertia, language stores and offers for communicative usage many remnants of many obsolete paradigms.

As soon, however, as its offer of such remnants, such outdated golden words of wisdom, worship, and eternal value, is accepted by us and used in argumentative discourse for the description and solution of our problems today, for our teachings, our protests, our critical comments and proposals—as soon as we thus accept its offer, language turns into an unstoppable avalanche of such force of inertia that neither thought nor action can keep clear of it. The old anti-scholastic, anti-dogmatic sentence “actions speak louder than words” has long since been transformed into a self-deprecating dismissal of language, directed at itself, but is eagerly used by every speaker who wishes to promote and justify unspeakable actions taken to discredit or to silence speech whenever it might serve thought, ideas, reflections.

In human society language is so powerful that only violence (and that is not language) can stop it. Where its power fails to serve my desires, it would be a mistake to blame such failure on the weakness of language. Rather I should blame the weakness of my relation to language. If I fail to notice that I think and speak, under the influence of language, in patterns and constructs accumulated and preserved in the junkyards of long since vanished paradigms, then this shows my lack of consciousness with regard to just that power with which language can quickly make me spokesman for ideologies, in which everybody is almost always “right” at the “wrong” time. I recognize ideologists when I hear their speaking and read their writing. Their convincing language was already convincing before they use it. It could be used, just as well, for the presentation of other contents, other ideologies. The language of ideology insists that its statements are what it calls true, namely not only consistent with one another but also with the ruling paradigm of supporting evidence, logic, and all the taken for granted premises. At the same time, this language shows and deplores the untenability of its consistencies and how the observed evidence is a betrayal of its believed premises. To get out of this absurd dilemma, the convincing second-hand language proposes to provide the good old premises with more desirable consequences. Hostile to any critique of this language, its speakers accuse those wishing to investigate language of “playing with words” or “indulging in mere semantics”, of elitist tendencies and of contempt for communication. They believe in the power of language but fail to recognize it. The language of the ideologists and their friends, followers, and believers carries, at the expense of the intended messages, many unintended messages, but also the indignant sentences “I didn’t say that! That’s not what I mean! You know what I mean!” or simply and thoughtlessly “you know”;
in addition that language offers a lot of initial withdrawals, such as “It seems to me…; It appears that…; It has been said…; The truth of the matter is, of course…; My personal own opinion is…;” and many more. all of which hint at unquestioned assumptions with regard to unquestioned notions such as subjectivity (to be apologetically conceded), objectivity (that’s where true judgment beckons), truth (helplessly delivered to integrity).

The list is too long for me to continue it much further. I wish, however, to emphasize a distinction that I draw between ideologists and ideologies. Ideologies are the traces left by ideologists. The stuff of which ideologies are made may originally have been old or new ideas, ingeniously designed propositions or the pipedreams of a moron, they may have been notions I should like to share or to oppose: regardless of content and potential, both become corrupted by ideologists. The accumulated language of bygone times, powerful, familiar, and obsolete, uses the ideologists and makes them its speakers. Through them it thwarts those specific human attempts which we call ideas and which, rebellious against all that is, would engender new thought and new procedures.

The dilemma is that neither insight nor good intention, not even syntactic and grammatical care, will protect me from becoming an ideologist as long as I am unable or unwilling to create the suitable language which speaks as I think and not louder than my thoughts.

This is a problem for everybody, and I shall try now to briefly describe some of the obstacles to its easy solution.

If I learn, gradually or suddenly, that there is far more human misery and suffering in the world than fairy tales and schools have let me know; that there are thousands of explanations why misery cannot be avoided for every proposition suggesting how to prevent it; if, in addition, I notice that these observations increasingly disturb and haunt me, so that I begin to look with growing contempt on the once (and secretly still) loved treasures of culture, ethics, morals, beliefs and values, as they, taken for granted, provide safe conduct and sanctuary for ev-
ery brutality, violence, negligence and malice that can
costume itself in their name; then, finally, feeling help-
less and desperate, I begin looking around for help and
hope and find that for a long time already people have
collected their wits and their wants and assembled, in
small and large groups, in order to find, to generate, to
inveigle, to teach, if need be, to force various solutions
of those problems, which these groups call unnecessary
human suffering inflicted by human beings on human be-
ings, and which others call fate or simply bad luck. So I
attempt to join the problem solvers, I read their writings,
listening to their speaking, study their theories, projects and
strategies, contribute to the discussions in small and large
circles, educating and preparing myself for the day of
change: the day when, at last, the universal paradigm, in
whose invisible and unquestioned embrace human mis-
ery can accurately be named a somehow excusable and
certainly always expected commonplace, will stand ex-
posed and rejected, to be replaced by one that I (from
my present outlook) would prefer or (a radical change in
social consciousness) by none.

All analysis of state and facts and processes tries to
show something to everybody, which, without the anal-
ysis, would not be seen by everybody. All analysis, to-
gether with speculation and experiment, is, therefore, a
small or large step toward the exposure of the unseen
but ruling paradigm. My analysis, skilled and guided
by study, concern, and anti-ideological care, leads me to
conjecture what our most powerful, contemporary, rul-
ing paradigm might be. My conjecture is that we all
live, speak, and act, perceive, judge, and decide under the
unquestioned, untouchable, and firmly established guid-
ance of an image which I call “the reward-oriented hier-
archy”. By calling it so, I may be able to show that par-
ticular dynamic property of language which, undetected,
blocks creative, and thus political, thought processes.

Living organisms, including human beings, have to
obey some natural laws in order to maintain their contin-
ued existence as living organisms. I use the word need
whenever I wish to speak of conditions which must be
met continuously and unconditionally if living organisms
are to be able and to be motivated to maintain them-
|selves, their identities, their existence. The conditions
must be met continuously, because the conditions con-
tinue in consequence of having been met. (The living
need food in order to be hungry again.) The conditions
must be met unconditionally, because without the condi-
tions called needs having been met no other conditions
exist. (The dead can’t be social.)

It is, thus, not open to choice or dispute: the satisfac-
tion of needs is the premise for any form of life. In par-
cular: the satisfaction of all human needs is the premise
for any human society. And every society would have to
understand that in its social conceptual image of itself the
satisfaction of all human needs must be accomplished be-
fore and so that the purpose of society can be envisioned.
The purpose of society is the development of ever more
satisfactory means of production of the necessities that
will meet the needs; the development and use of the free-
dom from need for the enjoyment of diversity and differ-
ence; the appreciation and the application of ideas which
provide new answers to old questions; the invitation and
implementation of inventions which provide new proce-
dures for the solution of old and recurrent problems. The
purpose of society is, thus, the justified hope of pursuit
of all those alternative paths of consequences which, be
they ever so audacious, unheard of, unspeakable, do not
interfere with their indispensable premise: the satisfac-
tion of all human needs.

We do not live in such a human society. The his-
tory of our society began when people discovered that
the premise can be treated, through actions and words,
as a consequence. Under this treatment our society has
developed an image of itself, according to which the sat-
sfaction of needs has to be deserved and earned, so that
it be understood as a reward. Ever since then, and up
to the present day, we live in a reward-oriented hierar-
chy. In cooperation with natural circumstances and by
fostering cultures and civilizations in which economies
and language supported one another, it became possible
to hide the old natural premise behind the new artifi-
cial one. The premise of the reward-oriented hierarchy
states that the necessities for the satisfaction of human
needs are scarce. This scarcity poses individual and so-
cial problems, in particular, problems of production and
distribution. Finally, the premise declares that the prob-
lems of scarcity can not be solved before individual and
social problems are solved. Thus is generated, consistent
with this premise, a large body of consequences, result-
ing in apparently consistent and reasonable criteria for
the planning of economics and the teaching of language.
There were times when human ingenuity and technology
indeed could not yet procure the necessities to meet all
human needs of all human beings. These times are past.
Our present knowledge and technology could remove
that scarcity and replace it with abundance. The times
of scarcity as a dictate of nature are over, but its eco-
nomics and language not only linger on, but even have
grown more powerful. Under these economics, scarcity
is maintained and used for temporary solutions of indi-
vidual and social problems. Language, at the same time,
declares scarcity a standard for value and motivation. In
mutual support, economics and language internalize the
reward-oriented hierarchy in order to maintain and jus-
tify only those actions, morals, ethics, religions, ideas,
thoughts and inventions, which are consistent with the

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Paradigms: The Inertia of Language
of the secret reward-oriented hierarchy which, as an unquestioned paradigm, rules our language and thus at least part of our thinking.

Marx wrote an analysis of capitalist economy with the purpose of showing that an accurate analysis exposes the contradictions which a capitalist oriented society suffers from, or punishes, or even perpetuates. If a Marxist writer agrees with that analysis and that purpose, then she agrees that what Marx wrote was, and is, as far as it goes, true. It was true in that it described and analyzed what then was the case, and it is true, in that the contradictions are still in evidence. But the truth that there are contradictions is not revolutionary. The contradictions themselves, however, are revolutionary, in that they generate those antagonisms which the system can not resolve without disintegrating. If the Marxist now writes: “only the truth is revolutionary!” then she inadvertently speaks the language of the reward-oriented hierarchy (which she opposes) where “the truth” has a higher status than contradictions, where “the truth” is consistent with the premise, while the resolution of antagonism is not. It is not revolutionary to encourage the exploited, under the pretext of communication, to trust and use and follow the language of the exploiter. It would certainly be more to the point, although possibly less communicative, if the writer or speaker would show and explain how the term “the truth” is nearly always used in order to obscure the view of the consistency of a statement or theory with some premise that ought to be discussed, but instead, under the spell of “the truth”, remains taken for granted. So that the relationships between some frequently used words be clarified and also be available to paradigms other than the reward-oriented hierarchy, I use the word “truth” whenever I wish to speak of the time during which the intent and content of a person’s statement can not and will not be accidentally in conflict or accidentally in contradiction with the intent and content of any other statement which this person would make in response to any situation, question, or statement presented. The time: because I refer to the passing presence of a relational event rather than to the value of timeless forms in formalized logics. Not: because, were I to write “only” instead, I should use the words “knowledge and error” instead of the word “truth”; and were I to write “not only” instead, I should use the word “belief” instead of “truth” and instead of the words “knowledge and error”.

The accumulated language of past and present paradigms denies us that time. Our writers and speakers must at last recognize its incompetence and become the creative artists who compose language, so that it teach its writers and speakers how to be thoughtfully and carefully inconsistent with undesirable premises, to be incompati-

### Marianne Brün

**Paradigms: The Inertia of Language**
ble with the morals, the religions, the armed forces, the arguments of the reward-oriented hierarchy.

It is a symptom of a reward-oriented hierarchy that it educates and conditions people so that people demand communicative language not only where it helps to maintain the system, but also where it can not help in changing it.

Communicative language is accumulated language based on obsolete and present paradigms and can not speak for those of us who think and dream in another paradigm.

There may be occasions where communicative language is tolerable. Whenever only criticism, reporting, and complaint is intended, communicative language will do. It always can accurately tell what is.

It breaks down and turns traitor as soon as its premises are asked to support a consequence they can not support.

Far too many political writers and speakers, carried away by concern, commiseration, inherited and learned discipline, and particularly by the desire to be understood, to be convincing, have rendered their powerful and necessary communications indistinguishable from one another and from the other.

So that language may not become a fossilized fetish, let it be praised for the thoughts it expresses, but ruthlessly criticized for the ideas it fails to articulate. Language is not the standard against which thinking is to be measured; on the contrary: language is to be measured by a standard it barely reaches, if ever, namely the imagery of human doubt and human desire.

To measure language, with imagery as a standard, is the function of art in society. The arts are a measuring meta-language about the language that is found wanting. If the imagery succeeds in containing, anticommmunicatively, for later, the simulation, the structural analogy to that which was found wanting, then, who knows, it may tell us or someone some day with breathtaking eloquence and in then simple terms what we, today, almost speechlessly have wanted so much.
Perception of the Future and the Future of Perception

Heinz von Foerster

(1971)

“The definition of a problem and the action taken to solve it largely depend on the view which the individuals or groups that discovered the problem have of the system to which it refers. A problem may thus find itself defined as a badly interpreted output, or as a faulty output of a faulty output device, or as a faulty output due to a malfunction in an otherwise faultless system, or as a correct but undesired output from a faultless and thus undesirable system. All definitions but the last suggest corrective action; only the last definition suggests change, and so presents an unsolvable problem to anyone opposed to change” (Herbert Brün, 1971).

Truisms have the disadvantage that by dulling the senses they obscure the truth. Almost nobody will become alarmed when told that in times of continuity the future equals the past. Only a few will become aware that from this follows that in times of socio-cultural change the future will not be like the past. Moreover, with a future not clearly perceived, we do not know how to act with only one certainty left: if we don’t act ourselves, we shall be acted upon. Thus, if we wish to be subjects, rather than objects, what we see now, that is, our perception, must be foresight rather than hindsight.

Epidemic

My colleagues and I are, at present, researching the mysteries of cognition and perception. When, from time to time, we look through the windows of our laboratory into the affairs of this world, we become more and more distressed by what we now observe. The world appears to be in the grip of a fast-spreading disease which, by now, has assumed almost global dimensions. In the individual the symptoms of the disorder manifest themselves by a progressive corruption of his faculty to perceive, with corrupted language being the pathogene, that is, the agent that makes the disease so highly contagious. Worse, in progressive stages of this disorder, the afflicted become numb, they become less and less aware of their affliction. This state of affairs makes it clear why I am concerned about perception when contemplating the future, for:

if we can’t perceive, we can’t perceive of the future, and thus, we don’t know how to act now.

I venture to say that one may agree with the conclu-
sion. If one looks around, the world appears like an anthill where its inhabitants have lost all sense of direction. They run aimlessly about, chop each other to pieces, foul their nest, attack their young, spend tremendous energies in building artefacts that are either abandoned when completed, or when maintained, cause more disruption than was visible before, and so on. Thus, the conclusions seem to match the facts. Are the premises acceptable? Where does perception come in?

Before we proceed, let me first remove some semantic traps, for—as I said before—corrupt language is the pathogene of the disease. Some simple perversions may come at once to mind, as when “incursion,” “protective reaction” for “aggression,” “food denial” for “poisoning men, beasts, and plants,” and others. Fortunately, we have developed some immunity against such insults, having been nourished with syntactic monstrosities as “X is better” without ever saying “than what.” There are, however, many more profound semantic confusions, and it is these to which I want to draw your attention now.

There are three pairs of concepts in which one member of these pairs is generally substituted for the other so as to reduce the richness of our conceptions. It has become a matter of fact to confuse process with substance, relations with predicates, and quality with quantity. Let me illustrate this with a few examples out of a potentially very large catalogue, and let me at the same time show you the paralytic behavior that is caused by this conceptual dysfunction.

Process/Substance

The primordial and most proprietary processes in any man and, in fact, in any organism, namely “information” and “knowledge,” are now persistently taken as commodities, that is as substance. Information is, of course, the process by which knowledge is acquired, and knowledge is the processes that integrate past and present experiences to form new activities, either as nervous activity internally perceived as thought and will, or externally perceivable as speech and movement (Maturana, 1970, 1971; Von Foerster, 1969,1971).

Neither of these processes can be “passed on” as we are told in phrases like “… Universities are depositories of Knowledge which is passed on from generation to generation,” etc., for your nervous activity is just your nervous activity and, alas, not mine.

No wonder that an educational system that confuses the process of creating new processes with the dispensing of goods called “knowledge” may cause some disappointment in the hypothetical receivers, for the goods are just not coming: there are no goods.

Historically, I believe, the confusion by which knowledge is taken as substance comes from a witty broadsheet printed in Nuremberg in the Sixteenth Century. It shows a seated student with a hole on top of his head into which a funnel is inserted. Next to him stands the teacher who pours into this funnel a bucket full of “knowledge,” that is, letters of the alphabet, numbers and simple equations. It seems to me that what the wheel did for mankind, the Nuremberg Funnel did for education: we can now roll faster down the hill.

Is there a remedy? Of course, there is one! We only have to perceive lectures, books, slides and films, etc., not as information but as vehicles for potential information. Then we shall see that in giving lectures, writing books, showing slides and films, etc., we have not solved a problem, we just created one, namely, to find out in which context can these things be seen so that they create in their perceivers new insights, thoughts, and actions.

Relation/Predicate

Confusing relations with predicates has become a political pastime. In the proposition “spinach is green,” “green” is a predicate; in “spinach is good,” “good” is a relation between the chemistry of spinach and the observer who tastes it. He may refer to his relation with spinach as “good.” Our mothers, who are the first politicians we encounter, make use of the semantic ambiguity of the syntactic operator “is” by telling us “spinach is good” as if they were to say “spinach is green.”

When we grow older we are flooded with this kind of semantic distortion that could be hilarious if it were not so far reaching. Aristophanes could have written a comedy in which the wisest men of a land set out to accomplish a job that, in principle, cannot be done. They would like overly to establish, once and for all, all the properties that define an obscene object or act. Of course, “obscenity” is not a property residing within things, but a subject-object relationship, for if we show Mr. X a painting and he calls it obscene, we know a lot about Mr. X but very little about the painting. Thus, when our lawmakers will finally come up with their imaginary list, we shall know a lot about them, but their laws will be dangerous nonsense.

“Order” is another concept that we are commanded to see in things rather than in our perception of things. Of the two sequences A and B,

A: 1, 2, 3, 4, 5, 6, 7, 8, 9
B: 8, 5, 4, 9, 1, 7, 6, 3, 2

sequence A is seen to be ordered while B appears to be in a mess, until we are told that B has the same beautiful order as A, for B is in alphabetical order (eight, five, four, . . . ). “Everything has order once it is understood”...
says one of my friends, a neurophysiologist, who can see order in what appears to me at first the most impossible scramble of cells. My insistence here to recognize “order” as a subject-object relation and not to confuse it with a property of things may seem too pedantic. However, when it comes to the issue “law and order” this confusion may have lethal consequences. “Law and order” is no issue, it is a desire common to all; the issue is “which laws and what order,” or, in other words, the issue is “justice and freedom.”

Castration

One may dismiss these confusions as something that can easily be corrected. One may argue that what I just did was doing that. However, I fear this is not so; the roots are deeper than we think. We seem to be brought up in a world seen through descriptions by others rather than through our own perceptions. This has the consequence that instead of using language as a tool with which to express thoughts and experience, we accept language as a tool that determines our thoughts and experience.

It is, of course, very difficult to prove this point, for nothing less is required than to go inside the head and to exhibit the semantic structure that reflects our mode of perception and thinking. However, there are now new and fascinating experiments from which these semantic structures can be inferred. Let me describe one that demonstrates my point most dramatically.

The method proposed by George Miller (1967) consists of asking independently several subjects to classify on the basis of similarity of meaning a number of words printed on cards (Fig. 1). The subject can form as many classes as he wants, and any number of items can be placed in each class. The data so collected can be represented by a “tree” such that the branchpoints further away from the “root’” indicate stronger agreement among the subjects and hence suggest a measure of similarity in the meaning of the words for this particular group of subjects.

Fig. 1: Example of 36 words printed on cards to be classified according to similarity in meaning

Fig. 2 shows the result of such a “cluster analysis” of the 36 words of Fig. 1 by 20 adult subjects (“root” on the left). Clearly, adults classify according to syntactic categories, putting nouns in one class (bottom tree), adjectives in another (next to bottom tree), then verbs, and finally those little words one does not know how to deal with.

Fig. 2: Cluster analysis of the 36 words of Fig. 1 classified by 20 adult subjects. Note that syntactic categories are faithfully respected, while semantic relations are almost completely ignored.

The difference is impressive when the adults’ results are compared with the richness of perception and imagery of children in the third and fourth grade when given the same task (Fig. 3). Miller reflects upon these delightful results:

“Children tend to put together words that might be used in talking about the same thing—which cuts right across the tidy syntactic boundaries so important to adults. Thus all twenty of the children agree in putting the verb ‘eat’ with the noun ‘apple’; for many of them ‘air’ is ‘cold”; the ‘foot’ is used to ‘jump’—You ‘live’ in a ‘house’; ‘sugar’ is ‘sweet’, and the cluster of ‘doctor,’ ‘needle,’ ‘suffer,’ ‘weep’ and ‘sadly’ is a small vignette in itself.”
What is wrong with our education that castrates our power over language? Of the many factors that may be responsible I shall name only one that has a profound influence on our way of thinking, namely, the misapplication of the “scientific method.”

Scientific Method

The scientific method rests on two fundamental pillars:

(i) Rules observed in the past shall apply to the future. This is usually referred to as the principle of conservation of rules, and I have no doubt that you are all familiar with it. The other pillar, however, stands in the shadow of the first and thus is not so clearly visible:

(ii) Almost everything in the universe shall be irrelevant. This is usually referred to as the principle of the necessary and sufficient cause, and what it demands is at once apparent when one realizes that “relevance” is a triadic relation that relates a set of propositions \( (P_1, P_2, \ldots) \) to another set of propositions \( (Q_1, Q_2, \ldots) \) in the mind \( (M) \) of one who wishes to establish this relation. If \( P \) are the causes that are to explain the perceived effects \( Q \), then the principle of necessary and sufficient cause forces us to reduce our perception of effects further and further until we have hit upon the necessary and sufficient cause that produces the desired effect. Everything else in the universe shall be irrelevant.

It is easy to show that resting one’s cognitive functions upon these two pillars is counter-productive in contemplating any evolutionary process, be it the growing up of an individual, or a society in transition. In fact, this was already known by Aristotle who distinguished two kinds of cause, one the “efficient cause,” the other the “final cause,” which provide us with two distinct explanatory frameworks for either inanimate matter, or else living organisms, the distinction being that the efficient cause precedes its effect while the final cause succeeds its effect. When striking with a match the treated surface of a matchbook, the striking is the (efficient) cause for the match to ignite. However, the cause for my striking the match is my wish to have it ignited (final cause).

Perhaps, with this distinction, my introductory remarks may appear much clearer. Of course, I had in mind the final cause when I said that if we can perceive the future (the match being ignited), we know how to act now (strike!). This leads me immediately to draw a conclusion, namely:

At any moment we are free to act toward the future we desire.

In other words, the future will be as we wish and perceive it to be. This may come as a shock only to those who let their thinking be governed by the principle that demands that only the rules observed in the past shall apply to the future. For those the concept of “change” is inconceivable, for change is the process that obliterates the rules of the past.

Quality/Quantity

In order to protect society from the dangerous consequences of change, not only a whole branch of business has emerged, but also the Government has established several offices that busy themselves in predicting the future by applying the rules of the past. These are the Futurists. Their job is to confuse quality with quantity, and their products are “future scenarios” in which the qualities remain the same, only the quantities change: more cars, wider highways, faster planes, bigger bombs, etc. While these “future scenarios” are meaningless in a changing world, they have become a lucrative business for entrepreneurs who sell them to corporations that profit from designing for obsolescence.

With the diagnosis of the deficiency to perceive qualitative change, that is, a change of our subject-object and subject-subject relationships, we are very close to the root of the epidemic that I mentioned in my opening remarks. An example in neurophysiology may help to comprehend the deficiency that now occurs on the cognitive level.
**Dysgnosis**

The visual receptors in the retina, the cones and the rods, operate optimally only under certain conditions of illumination. Beyond or below this condition we suffer a loss in acuity or in color discrimination. However, in the vertebrate eye the retina almost always operates under these optimal conditions, because of the iris that contracts or dilates so as to admit under changing conditions of brightness the same amount of light to the receptors. Hence, the scenario “seen” by the optic nerve has always the same illumination independent of whether we are in bright sunshine or in a shaded room. How, then, do we know whether it is bright or shady?

The information about this datum resides in the regulator that compares the activity in the optic nerve with the desired standard and causes the iris to contract when the activity is too high, and to dilate when it is too small. Thus, the information of brightness does not come from inspecting the scenario—it appears always to be of similar brightness—it comes from an inspection of the regulator that suppresses the perception of change.

There are subjects who have difficulties in assessing the state of their regulator, and thus they are weak in discriminating different levels of brightness. They are called “dysphotic.” They are the opposite of photographers, who may be called “photic,” for they have a keen sense of brightness discrimination. There are subjects who have difficulties in assessing the regulators that maintain their identity in a changing world. I shall call individuals suffering from this disorder “dysgnostic,” for they have no way of knowing themselves. Since this disorder has assumed extraordinary dimensions, it has indeed been recognized at the highest national level.

As you all know, it has been observed that the majority of the American people cannot speak. This is interpreted by saying that they are “silent”; I say they are mute. However, as you all know very well, there is nothing wrong with the vocal tract of those who are mute: the cause of their muteness is deafness. Hence, the so-called “silent majority” is de facto a “deaf majority.”

However, the most distressing thing in this observation is that there is again nothing wrong with their auditory system; they could hear if they wanted to: but they don’t want to. Their deafness is voluntary, and in others it is their blindness.

At this point proof will be required for these outrageous propositions. _TIME Magazine_ (1970) provides it for me in its study of Middle America.

There is the wife of a Glencoe, Illinois lawyer, who worries about the America in which her four children are growing up: “I want my children to live and grow up in an America as I knew it,” [note the principle of conservation of rule where the future equals the past] “where we were proud to be citizens of this country. I’m damned sick and tired of _listening_ to all this nonsense about how awful America is.” [Note voluntary deafness.]

Another example is a newspaper librarian in Pittsfield, Massachusetts, who is angered by student unrest: “Every time I see protestors, I say, ‘Look at those creeps.’” [Note reduction of visual acuity.] “But then my 12-year old son says, ‘They’re not creeps. They have a perfect right to do what they want’” [Note the un-adult-erated perceptual faculty in the young.]

The tragedy in these examples is that the victims of “dysgnosis” not only do not know that they don’t see, hear, or feel, they also do not want to.

How can we rectify this situation?

**Trivialization**

I have listed so far several instances of perceptual disorders that block our vision of the future. These symptoms collectively constitute the syndrome of our epidemic disease. It would be the sign of a poor physician if he were to go about relieving the patient of these symptoms one by one, for the elimination of one may aggravate another. Is there a single common denominator that would identify the root of the entire syndrome?

To this end, let me introduce two concepts, they are the concepts of the “trivial” and the “non-trivial” machine. The term “machine” in this context refers to well-defined functional properties of an abstract entity rather than to an assembly of cogwheels, buttons and levers, although such assemblies may represent embodiments of these abstract functional entities.

A trivial machine is characterized by a one-to-one relationship between its “input” (stimulus, cause) and its “output” (response, effect). This invariable relationship is “the machine.” Since this relationship is determined once and for all, this is a deterministic system; and since an output once observed for a given input will be the same for the same input given later, this is also a predictable system.

Non-trivial machines, however, are quite different creatures. Their input-output relationship is not invariant, but is determined by the machine’s previous output. In other words, its previous steps determine its present reactions. While these machines are again deterministic systems, for all practical reasons they are unpredictable: an output once observed for a given input will most likely not be the same for the same input given later.

In order to grasp the profound difference between these two kinds of machines it may be helpful to envision “internal states” in these machines. While in the trivial machine only one internal state participates always in its internal operation, in the non-trivial machine it is the shift from one internal state to another that makes it so
elusive.

One may interpret this distinction as the Twentieth Century version of Aristotle’s distinction of explanatory frameworks for inanimate matter and living organisms.

All machines we construct and buy are, hopefully, trivial machines. A toaster should toast, a washing machine wash, a motorcar should predictably respond to its driver’s operations. In fact, all our efforts go into one direction, to create trivial machines or, if we encounter non-trivial machines, to convert them into trivial machines. The discovery of agriculture is the discovery that some aspects of Nature can be trivialized: If I till today, I shall have bread tomorrow.

Granted, that in some instances we may be not completely successful in producing ideally trivial machines. For example, one morning turning the starter key to our car, the beast does not start. Apparently it changed its internal state, obscure to us, as a consequence of previous outputs (it may have exhausted its gasoline supply) and revealed for a moment its true nature of being a non-trivial machine. But this is, of course, outrageous and this state of affairs should be remedied at once.

While our pre-occupation with the trivialization of our environment may be in one domain useful and constructive, in another domain it is useless and destructive. Trivialization is a dangerous panacea when man applies it to himself.

Consider, for instance, the way our system of education is set up. The student enters school as an unpredictable “non-trivial machine.” We don’t know what answer he will give to a question. However, should he succeed in this system the answers he gives to our questions must be known. They are the “right” answers:

Q: “When was Napoleon born?”
A: “1769”
Right!
Student = Student

but

Q: “When was Napoleon born?”
A: “Seven years before the Declaration of Independence.”
Wrong!
Student = Non-student

Tests are devices to establish a measure of trivialization. A perfect score in a test is indicative of perfect trivialization; the student is completely predictable and thus can be admitted into society. He will cause neither any surprises nor any trouble.

Future

I shall call a question to which the answer is known an “illegitimate question.” Wouldn’t it be fascinating to contemplate an educational system that would ask of its students to answer “legitimate questions” that is questions to which the answers are unknown (H. Brün in a personal communication). Would it not be even more fascinating to conceive of a society that would establish such an educational system? The necessary condition for such an utopia is that its members perceive one another as autonomous, non-trivial beings. Such a society shall make, I predict, some of the most astounding discoveries. Just for the record, I shall list the following three:

1. “Education is neither a right nor a privilege: it is a necessity.”
2. “Education is learning to ask legitimate questions.”

A society who has made these two discoveries will ultimately be able to discover the third and most utopian one:

3. “A is better off when B is better off.”

From where we stand now, anyone who seriously makes just one of those three propositions is bound to get into trouble. Maybe you remember the story Ivan Karamazov makes up in order to intellectually needle his younger brother Alyosha. The story is that of the Great Inquisitor. As you recall, the Great Inquisitor walks on a very pleasant afternoon through his town, I believe it is Salamanca; he is in good spirits. In the morning he has burned at the stakes about a hundred and twenty heretics, he has done a good job, everything is fine. Suddenly there is a crowd of people in front of him, he moves closer to see what’s going on, and he sees a stranger who is putting his hand onto a lame person, and that lame one can walk. Then a blind girl is brought before him, the stranger is putting his hand on her eyes, and she can see. The Great Inquisitor knows immediately who He is, and he says to his henchmen: “Arrest this man.” They jump and arrest this man and put Him into jail. In the night the Great Inquisitor visitors the stranger in his cell and he says: “Look, I know who You are, troublemaker. It took us one thousand and five hundred years to straighten out the troubles you have sown. You know very well that people can’t make decisions by themselves. You know very well people can’t be free. We have to make their decisions. We tell them who they are to be. You know that very well. Therefore, I shall burn You at the stakes tomorrow.” The stranger stands up, embraces the Great Inquisitor and kisses him. The Great Inquisitor walks out, but, as he leaves the cell, he does not close the door, and the stranger disappears in the darkness of the night.

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Let us remember this story when we meet those troublemakers, and let us keep the door open for them. We shall recognize them by an act of creation:

“Let there be vision: and there was light.”

References


Ladies and Gentlemen:

I am touched by the generosity of the organizers of this conference who not only invited me to come to your glorious city of Paris, but also gave me the honor of opening the Plenary sessions with my presentation. And I am impressed by the ingenuity of the organizers who suggested to me the title of my presentation. They wanted me to address myself to “Ethics and Second-Order Cybernetics.” To be honest, I would have never dared to propose such an outrageous title, but I must say that I am delighted that this title was chosen for me.

Before I left California for Paris, others asked me full of envy, what am I going to do in Paris, what will I talk about? When I answered “I shall talk about Ethics and Second-Order Cybernetics” almost all of them looked at me in bewilderment and asked, “What is second-order cybernetics?” as if there were no questions about ethics. I am relieved when people ask me about second-order cybernetics and not about ethics, because it is much easier to talk about second-order cybernetics than it is to talk about ethics. In fact it is impossible to talk about ethics. But let me explain that later, and let me now say a few words about cybernetics, and of course, the cybernetics of cybernetics, or second-order cybernetics.

As you all know, cybernetics arises when effectors (say, a motor, an engine, our muscles, etc.) are connected to a sensory organ which in turn acts with its signals upon the effectors. It is this circular organization which sets cybernetic systems apart from others that are not so organized. Here is Norbert Wiener, who re-introduced the term “Cybernetics” into scientific discourse. He observed, “The behavior of such systems may be interpreted as directed toward the attainment of a goal.” That is, it looks as if these systems pursued a purpose!

That sounds very bizarre indeed! But let me give you other paraphrases of what cybernetics is all about by invoking the spirit of women and men who rightly could be considered the mamas and papas of cybernetic thought and action. First there is Margaret Mead, whose name I am sure is familiar to all of you. In an address to the American Society of Cybernetics she remarked:

As an anthropologist, I have been interested in the effects that the theories of Cybernetics have within our society. I am not referring to computers or to the electronic revolution as a whole, or to the end of dependence on script for knowledge, or to the way that dress has succeeded the mimeographing machine as a form of communication among the dissenting young. Let me repeat that, I am not referring to the way that dress has succeeded the mimeographing machine as a form of communication among the dissenting young.

And she then continues:

I specifically want to consider the significance of the set of cross-disciplinary ideas which we first called “feed-back” and then called “teleological mechanisms” and then called it “cybernetics,” a form of cross-disciplinary thought which made it possible for members of many disciplines to communicate with each other easily in a language which all could understand.

And here is the voice of her third husband, the epistemologist, anthropologist, cybernetician, and as some say, the papa of family therapy, Gregory Bateson, “Cybernetics is a branch of mathematics dealing with problems of control, recursiveness and information.

And here is the organizational philosopher and managerial wizard Stafford Beer, “Cybernetics is the science of effective organization.”

And finally, here the poetic reflection of “Mister Cybernetics,” as we fondly call him, the Cybernetician’s cybernetician; Gordon Pask, “Cybernetics is the science of defensible metaphors.”

It seems that cybernetics is many different things to many different people. But this is because of the richness of its conceptual base; and I believe that this is very good, otherwise cybernetics would become a somewhat
boring exercise. However, all of those perspectives arise from one central theme; that of circularity. When, perhaps a half century ago, the fecundity of this concept was seen, it was sheer euphoria to philosophize, epistemologize, and theorize about its unifying power and its consequences and ramification on various fields. While this was going on, something strange evolved among the philosophers, the epistemologists and, the theoreticians. They began to see themselves more and more as being included in a larger circularity; maybe within the circularity of their family; or that of their society and culture; or even being included in a circularity of cosmic proportions!

What appears to us today as being most natural to see and think, was then not only difficult to see, but wasn’t even allowed to be thought. Why? Because it would violate the basic principle of scientific discourse which demands the separation of the observer from the observed. It is the principle of objectivity. The properties of the observer shall not enter the description of his observations.

I present this principle here, in its most brutal form, to demonstrate its non-sensicality. If the properties of the observer (namely to observe and describe) are eliminated, there is nothing left; no observation, no description. However, there was a justification for adhering to this principle, and this justification was fear; fear that paradoxes would arise when the observers were allowed to enter the universe of their observations. And you know the threat of paradoxes. To steal their way into a theory is like having the cloven-hoofed foot of the devil stuck in the door of orthodoxy.

Clearly when cyberneticians were thinking of partnership in the circularity of observing and communicating, they were entering into a forbidden land. In the general case of circular closure, A implies B; B implies C; and (Oh, horror!) C implies A! Or in the reflexive case, A implies B, and (Oh, shock!) B implies A! And now the devil’s cloven-hoof in its purest form, the form of self-reference; A implies A (Outrage!)

I would like to invite you now to join me in a land where it is not forbidden; rather, where one is encouraged to speak about oneself. What else can one do anyway? This turn from looking at things “out there” to looking at “looking itself,” arose I think, from significant advances in neurophysiology and neuropsychiatry. It appeared that one could now dare to ask the question of how the brain works. One could dare to write a theory of the brain.

It may be argued that over the centuries since Aristotle, physicians and philosophers again and again developed theories of the brain. So, what’s new of today’s cyberneticians? What is new is the profound insight that a brain is required to write a theory of a brain. From this follows that a theory of the brain, that has any aspirations for completeness, has to account for the writing of this theory. And even more fascinating, the writer of this theory has to account for her or himself. Translated into the domain of cybernetics; the cybernetician, by entering his own domain, has to account for his or her own activity. Cybernetics then becomes cybernetics of cybernetics, or second-order cybernetics.

Ladies and Gentlemen, this perception represents a fundamental change, not only in the way we conduct science, but also how we perceive teaching, learning, the therapeutic process, organizational management, and so on and so forth; and I would say, of how we perceive relationships in our daily life. One may see this fundamental epistemological change if one first considers oneself to be an independent observer who watches the world go by; as opposed to a person who considers oneself to be a participant actor in the drama of mutual interaction of the give and take in the circularity of human relations.

In the case of the first example, as a result of my independence, I can tell others how to think and act, “Thou shalt . . . ” “Thou shalt not . . . ” This is the origin of moral codes. In the case of the second example, because of my interdependence, I can only tell myself how to think and act, “I shall . . . ” “I shall not . . . ” This is the origin of ethics.

This was the easy part of my presentation. Now comes the difficult part. I am supposed to talk about ethics. How to go about this? Where to begin?

In my search for a beginning I came across the lovely poem by Yveline Rey and Bernard Prieur that embelishes the first page of our program. Let me read to you the first few lines:

"Vous avez dit Ethique?"
Dèjà le murmure s’amplifie en rumeur.
Soudain les roses ne montrent plus des épines.
Sans doute le sujet est-il brûlant. Il est aussi d’actualité.

"Vous said Ethics?"
Already the murmur develops in rumour.
Suddenly the roses do not show any more of the thorns.
No doubt the subject is extreme. It is also so of reality.

Let me begin with épines—with the thorns—and I hope, a rose will emerge. The thorns I begin with are Ludwig Wittgenstein’s reflections upon ethics in his Tractatus Logico-Philosophicus. If I were to provide a title for this tractatus, I would call it Tractatus Ethico-Philosophicus. However, I am not going to defend this choice, I rather tell you what prompts me to refer to Wittgenstein’s reflections in order to present my own.

I’m referring to point Number 6 in his Tractatus where he discusses the general form of propositions. Near the end of this discussion he turns to the problem of values in the world and their expression in propositions. In his famous point Number 6.421 he comes to a conclusion which I will read to you in the original German, “Es ist

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Klar, daß sich Ethik nicht ausprechen läßt.” I wish I knew a French translation. I only know two English translations which are both incorrect. Therefore, I will present my translation into English, with my conviction that the simultaneous translators will do a superb job of presenting Wittgenstein’s point in French. Here is my English version of 6.421, “It is clear that ethics cannot be articulated.”

Now you understand why earlier I said, “My beginning will be thorns.” Here is an International Congress on Ethics, and the first speaker says something to the effect that it is impossible to speak about ethics! But please be patient for a moment. I quoted Wittgenstein’s thesis in isolation. Therefore it is not yet clear what he wanted to say.

Fortunately, the next point 6.422, which I will read in a moment, provides a larger context for 6.421. To prepare for what you are about to hear, you should remember that Wittgenstein was a Viennese. So am I. Therefore there is a kind of underground understanding which I sense you Parisians will share with us Viennese. Let me try to explain. Here now is point 6.422 in the English translation by Pears and McGuinness; “When an ethical law of the form ‘Thou shalt. . . ’ is laid down, one’s first thought is, ‘And what if I do not do it?’” When I first read this, my thought was that not everybody will share Wittgenstein’s view. I think that this reflects his cultural background.

Let me continue with Wittgenstein, “It is clear however, that ethics has nothing to do with punishment and reward in the usual sense of the terms. Nevertheless, there must indeed be some kind of ethical reward and punishment, but they must reside in the action itself.”

They must reside in the action itself! You may remember, we came across such self-referential notions earlier with the example, “A implies A” and its recursive relatives of second-order cybernetics. Can we take a hint from these comments for how to go about reflecting about ethics, and at the same time adhere to Wittgenstein’s criterion? I think we can. I myself try to adhere to the following rule; to master the use of my language so that ethics is implicit in any discourse I may have. (e.g., in science, philosophy, epistemology, therapy, etc.)

What do I mean by that? By that I mean to let language and action ride on an underground river of ethics, and to make sure that one is not thrown off. This insures that ethics does not become explicit and that language does not degenerate into moralizations. How can one accomplish this? How can one hide ethics from all eyes and still let her determine language and action? Fortunately, ethics has two sisters who allow her to remain unseen. They create for us a visible framework; a tangible tissue within which and upon which we may weave the goblins of our life. And who are these two sisters? One is Metaphysics, the other is Dialogics.

My job now is to talk about these two ladies, and how they manage to allow ethics to become manifest without becoming explicit.

**Metaphysics**

Let me first talk about Metaphysics. In order to let you see at once the delightful ambiguity that surrounds her, let me quote from a superb article, “The Nature of Metaphysics” by the British scholar W.H. Walsh. He begins his article with the following sentence, “Almost everything in metaphysics is controversial, and it is therefore not surprising that there is little agreement among those who call themselves metaphysicians about what precisely it is they are attempting.”

Today, when I invoke Metaphysics, I do not seek agreement with anybody else about her nature. This is because I want to say precisely what it is when we become metaphysicians, whether or not we call ourselves metaphysicians. I say that we become a metaphysician any time we decide upon in principle undecidable questions. For instance, here is a decidable question, “Is the number 3,396,714 divisible by 2?” It will take you less than two seconds to decide that indeed this number is divisible by two. The interesting thing here is that it will take you exactly the same short time to decide if the number has not 7, but 7000 or 7 million digits. I could of course invent questions that are slightly more difficult; for instance, “Is 3,396,714 divisible by three?” or even more difficult ones. But there are also problems that are extraordinarily difficult to decide, some of them having been posed more than 200 years ago and remain unanswered.

Think of Fermat’s “Last Theorem” to which the most brilliant heads have put their brilliant minds and have not yet come up with an answer. Or think of Goldbach’s “Conjecture” which sounds so simple that it seems a proof cannot be too far away; “All even numbers can be composed as the sum of two primes.” For example, 12 is the sum of the two prime numbers 5 and 7; or 20 = 17 + 3; or 24 = 13 + 11, and so on and so forth. So far, no counterexample to Goldbach’s conjecture has been found. And even if all further tests would not refute Goldbach, it still would remain a conjecture until a sequence of mathematical steps is found that decides in favor of his good sense of numbers. There is a justification for not giving up and for continuing the search for finding a sequence of steps that would prove Goldbach. It is that the problem is posed in a framework of logico-mathematical relations which guarantees that one can climb from any node of this complex crystal of connections to any other node.
One of the most remarkable examples of such a crystal of thought is Bertrand Russell’s and Alfred North Whitehead’s monumental *Principia Mathematica* which they wrote over a 10 year period between 1900 and 1910. This 3 volume *magnum opus* of more than 1500 pages was to establish once and for all a conceptual machinery for flawless deductions. A conceptual machinery that would contain no ambiguities, no contradictions and no undecidables.

Nevertheless, in 1931, Kurt Gödel, then 25 years of age, published an article whose significance goes far beyond the circle of logicians and mathematicians. The title of this article I will give you now in English, “On formally undecidable propositions in the *Principia Mathematica* and related systems.” What Gödel does in his paper is to demonstrate that logical systems, even those so carefully constructed by Russell and Whitehead, are not immune to undecidables sneaking in.

However, we do not need to go to Russell and Whitehead, Gödel, or any other giants to learn about in principle undecidable questions. We can easily find them all around. For instance, the question about the origin of the universe is one of those in principle undecidable questions. Nobody was there to watch it. Moreover, this is apparent by the many different answers that are given to this question. Some say it was a single act of creation some 4 or 5,000 years ago. Others say there was never a beginning and that there will never be an end; because the universe is a system in perpetual equilibrium. Then there are those who claim that approximately 10 or 20 billion years ago the universe came into being with a “Big Bang” whose remnants one is able to hear over large radio antennas. But I am most inclined to trust Chuang Tse’s report, because he is the oldest and was therefore the closest to the event. He says:

Heaven does nothing, this nothing-doing is dignity; Earth does nothing, this nothing-doing is rest; From the union of these two nothing-doings arise all action And all things are brought forth.

I could go on and on with other examples, because I have not yet told you what the Burmese, the Australians, the Eskimos, the Bushmen, the Ibos, etc., would tell you about their origins. In other words, tell me how the universe came about, and I will tell you who you are.

I hope that I have made the distinction between decidable and, in principle, undecidable questions sufficiently clear so that I may present the following proposition which I call the “metaphysical postulate:”

Only those questions that are in principle undecidable, we can decide.

Why? Simply because the decidable questions are already decided by the choice of the framework in which they are asked, and by the choice of the rules used to connect what we label “the question” with what we take for an “answer.” In some cases it may go fast, in others it may take a long, long time. But ultimately we arrive after a long sequence of compelling logical steps at an irrefutable answer; a definite “yes,” or a definite “no.”

But we are under no compulsion, not even under that of logic, when we decide on in principle undecidable questions. There is no external necessity that forces us to answer such questions one way or another. We are free! The compliment to necessity is not chance, it is choice! We can choose who we wish to become when we have decided on an in principle undecidable question.

That is the good news, as American journalists would say, now comes the bad news. With this freedom of choice we are now responsible for the choice we make. For some, this freedom of choice is a gift from heaven. For others such responsibility is an unbearable burden. How can one escape it? How can one avoid it? How can one pass it on to somebody else?

With much ingenuity and imagination, mechanisms have been contrived by which one could bypass this awesome burden. Through hierarchies, entire institutions have been built where it is impossible to localize responsibility. Everyone in such a system can say, “I was told to do ‘X.’” On the political stage, we hear more and more the phrase of Pontius Pilate, “I have no choice but ‘X.’” In other words, “Don’t hold me responsible for X.” Blame someone else.” This phrase apparently replaces, “Among the many choices I had, I decided on ‘X.’”

I mentioned objectivity before, and I mention it here again as a popular device for avoiding responsibility. As you may remember, objectivity requires that the properties of the observer be left out of any descriptions of his observations. With the essence of observing (namely the processes of cognition) having been removed, the observer is reduced to a copying machine with the notion of responsibility successfully juggled away.

Objectivity, Pontius Pilate, hierarchies, and other devices are all derivations of a choice between a pair of in principle undecidable questions which are, “Am I *apart from* the universe?” Meaning whenever I look, I’m looking as if through a peephole upon an unfolding universe; or, “Am I *part* of the universe?” Meaning whenever I *act*, I’m changing myself and the universe as well.

Whenever I reflect on these two alternatives, I’m surprised by the depth of the abyss that separates the two fundamentally different worlds that can be created by such a choice. That is to see myself as a citizen of an independent universe, whose regulations, rules and customs I may eventually discover; or to see myself as a participant in a conspiracy, whose customs, rules, and regulations we are now inventing.
Whenever I speak to those who have made their decision to be either discoverers or inventors, I’m impressed by the fact that neither of them realizes that they have ever made that decision. Moreover, when challenged to justify their position, a conceptual framework is constructed which itself turns out to be the result of a decision upon an in principle undecidable question.

It seems as though I’m telling you a detective story while keeping quiet about who is the good guy and who is the bad guy; or who is sane and who is insane; or who is right and who is wrong. Since these are in principle undecidable questions, it is for each of us to decide, and then take responsibility for. There is a murderer. I submit that it is unknowable whether he is or was insane. The only thing we know is what I say, what you say, or what the expert says he is. And what I say, what you say, and what the expert says about his sanity or insanity is my, is your, and is the expert’s responsibility. Again, the point here is not the question “Who’s right and who’s wrong?” This is an in principle undecidable question. The point here freedom; freedom of choice. It is José Ortega y Gasset’s point:

Man does not have a nature, but a history. Man is nothing but a drama. His life is something that has to be chosen, made up as he goes along. And a human consists in that choice and invention. Each human being is the novelist of himself, and though he may choose between being an original writer and a plagiarist, he cannot escape choosing. He is condemned to be free.

You may have become suspicious of me qualifying all questions as being in principle undecidable questions. This is by no means the case. I was once asked how the inhabitants of such different worlds as I sketched before, (the inhabitants of the world they discover, and the inhabitants of a world they invent) can ever live together. Answering that is not a problem. The discoverers will most likely become astronomers, physicists and engineers; the inventors family therapists, poets, and biologists. And living together won’t be a problem either, as long as the discoverers discover inventors, and the inventors invent discoverers. Should difficulties develop, fortunately we have this full house of family therapists who may help to bring sanity to the human family.

I have a dear friend who grew up in Marakesh. The house of his family stood on the street that divides the Jewish and the Arabic quarters. As a boy, he played with all the others, listened to what they thought and said, and learned of their fundamentally different views. When I asked him once who was right he said, “They are both right.”

“But this cannot be,” I argued from an Aristotelian platform, “Only one of them can have the truth!”

“The problem is not truth,” he answered, “The problem is trust.”

I understood. The problem is understanding. The problem is understanding understanding! The problem is making decisions upon in principle undecidable questions.

At that point Metaphysics appeared and asked her younger sister Ethics, “What would you recommend I bring back to my proteges, the metaphysicians, regardless of whether or not they refer to themselves as such?” Ethics answered, “Tell them they should always try to act so as to increase the number of choices. Yes, increase the number of choices!”

**Dialogics**

Now I would like to turn to Ethics’ sister, Dialogics. What are the means at her disposal to insure that Ethics can manifest herself without becoming explicit? You may already have guessed that it is, of course, language. I am not referring here in the sense of the noises produced by pushing air past our vocal cords; or language in the sense of grammar, syntax, semantics, semiotics; nor the machinery of phrases, verb phrases, noun phrases, deep structure, etc. When I refer here to language, I refer to the dance of language, the dance steps alone, without the sound.

When it comes to the dance of language, you the family therapists are of course the masters, while I can only speak as an amateur. Since “amateur,” comes from “amour,” you’ll know at once that I love to dance this dance. In fact, what little I know of this dance I learned from you. My first lesson came when I was invited to sit in an observation room and observe through, the one way mirror a therapeutic session in progress with a family of four. For a moment my colleagues had to leave, and I was by myself. I was curious as to what I would see when I couldn’t hear what was said, so I turned off the sound.

I recommend that you perform this experiment yourself. Perhaps you will be as fascinated as I was. What I saw then, the silent pantomime, the parting and closing of lips, the body movements, the boy who only once stopped biting his nails … what I saw then were the dance steps of language, the dance steps alone, without the disturbing effects of the music. Later I heard from the therapist that this session was very successful indeed. I thought, what magic must sit in the noises these people produced by pushing air past their vocal cords and by parting and closing their lips. Therapy! What magic indeed! And to think that the only medicine at your dis-
posal are the dance steps of language and its accompanying music. Language! What magic indeed!

It is left to the naive to believe that magic can be explained. Magic cannot be explained. Magic can only be practiced, as you all well know. Reflecting on the magic of language is similar to reflecting upon a theory of the brain. As much as one needs a brain to reflect upon a theory of the brain, one needs the magic of language to reflect upon the magic of language. It is the magic of those notions that they need themselves to come into being. They are of second-order. It is also the way language protects itself against explanation by always speaking about itself.

There is a word for language, namely “language.” There is a word for word, namely “word.” If you don’t know what word means, you can look it up in a dictionary. I did that. I found it to be an “utterance.” I asked myself, “What is an utterance?” I looked it up in the dictionary. The dictionary said that it means “to express through words.” So here we are back where we started. Circularly; A implies A.

But this is not the only way language protects itself against explanation. In order to confuse her explorer she always runs on two different tracks. If you chase language up one track, she jumps to the other. If you follow her there, she is back on the first. What are these two tracks? One track is the track of appearance. It runs through a land that appears stretched out before us; the land we are looking at as though through a peephole. The other track is the track of function. It runs through the land that is as much a part of us as we are a part of it; the land that functions like an extension of our body.

When language is on the track of appearance it is a monologue. There are noises produced by pushing air past vocal cords. There are the words, the grammar, the syntax, the well formed sentences. Along with these noises goes the denotative pointing. Point to a table, make the noise “table”; point to a chair, make the noise “chair.”

Sometimes it does not work. Margaret Mead quickly learned the colloquial language of many tribes by pointing to things and waiting for the appropriate noises. She told me that once she came to a particular tribe, pointed to different things, but always got the same noises, “chu mulu.” A primitive language she thought, only one word! Later she learned that “chu mulu” means “pointing with finger.”

When language switches to the track of function it is dialogic. There are, of course, these noises; some of them may sound like “table,” others like “chair.” But there need not be any tables or chairs because nobody is pointing at tables or chairs. These noises are invitations to the other to make some dance steps together.

The noises “table” and “chair” bring to resonance those strings in the mind of the other which, when brought to vibration, would produce noises like “table” and “chair.” Language in its function is connotative.

In its appearance, language is descriptive. When you tell your story, you tell it as it was; the magnificent ship, the ocean, the big sky, and the flirt you had that made the whole trip a delight. But for whom do you tell it? That’s the wrong question. The right question is; with whom are you going to dance your story, so that your partner will float with you over the decks of your ship, will smell the salt of the ocean, will let the soul expand over the sky?

And there will be a flash of jealousy when you come to the point of your flirt.

In its function, language is constructive because nobody knows the source of your story. Nobody knows, nor ever will know how it was, because “as it was” is gone forever.

You remember René Descartes as he was sitting in his study, not only doubting that the was sitting in his study, but also doubting his existence. He asked himself, “Am I, or am I not?” “Am I, or am I not?” He answered this rhetorical question with the solipsistic monologue, “Je pense, donc je suis” or in the famous Latin version, “Cogito ergo sum.” As Descartes knew very well, this is language in its appearance, otherwise he would not have quickly published his insight for the benefit of others in his “Discourse de la méthode.” Since he understood the function of language as well, in all fairness he should have exclaimed, “Je pense, donc nous sommes”, “Cogito ergo sumus” or, “I think, therefore we are.”

In its appearance, the language I speak is my language. It makes me aware of myself. This is the root of consciousness. In its function, my language reaches out for the other. This is the root of conscience. And this is where Ethics invisibly manifests itself through dialogue. Permit me to read to you what Martin Buber says in the last few lines of his book Das Problem des Menschen:

Contemplate the human with the human, and you will see the dynamic duality, the essence together. Here is the giving and the receiving, here is the aggressive and the defensive power, here the quality of searching and of responding, always both in one, mutually complementing in alternating action, demonstrating together what it is; human. Now you can turn to the single one and you can recognize him as human for his potential of relating. We may come closer to answering the question, “What is human?” when we come to understand him as the being in whose dialogic, in his mutually present twoness, the encounter of the one with the
You may remember the point I made in my address; that we all are metaphysicians, whether or not we call ourselves such, whenever we decide upon in principle undecidable questions. To answer your question, I could also say we are all cyberneticians (whether or not we call ourselves such) whenever we justify our actions without using the words “because of . . . ” or “A cause de . . . ” but with the phrase in English “in order to . . . ” which in French is much more Aristotelian, “A fin de . . . ”

Yveline: Why Aristotelian?

Heinz: In his Metaphysics, Aristotle distinguished four different kinds of causes or, as I would say, four different excuses; two of which have temporal character, “causa efficientis” and “causa finalis.” Physicists love the former, where causes in the past determine the effects in the present: “Because she did turn the switch, the lights go on now.” Psychologists prefer the latter: “In order to have the lights on, she turns the switch now.” Causes in the future, “to have the room lit,” determine actions in the present, “turn the switch now.”

Yveline: Very interesting, but where does cybernetics come in?

Heinz: Physicists explore the connection between the positions of the switch, making or breaking contact, and the electrical processes that heat the wires in the lamp to temperatures that are high enough to radiate electromagnetic waves in the visible spectrum, etc., etc. Cyberneticians explore the connection between the little girl’s wish to enter a lit as opposed to a dark room, as well as the sensor-motoric processes and the emerging eye-hand correlation that bring her hand along an unpredictable path, but with a predictable outcome, closer and closer to the switch which she then turns in the right direction, etc. If one were to watch this girl, one might be tempted to say as did Norbert Wiener, “… her behavior may be interpreted as directed to the attainment of a goal.” In the early cybernetic literature you will find again and again reference to the notion of “goal,” “purpose,” “end,” etc. Since the Greek word for “end” is “telos,” our pre-cyberneticians used “teleology” for identifying their activity.

Yveline: But, Heinz, you said before that we are all cyberneticians, whether or not we call ourselves such, but when I go to turn on a light switch I am not “exploring the senso-motoric connections…” et cetera. I just go and turn on the switch. Where is the cybernetician?

Heinz: [Laughing] This is one more reason why I love women! You look through all the scientific verbal haze and go straight to the essential points. Now . . . Hmm . . . What can I say?

I think I can extricate myself from this dilemma by inventing a new category of cybernetics: “Zero-order Cybernetics.” I suggest we have a case of zero-order cybernetics when activity becomes structured; when “behavior” emerges, but one doesn’t reflect upon the “why” and the “how” of this behavior. One just acts. This is when cybernetics is implicit.

Yveline: I see. But what is now “First-order cybernetics?”

Heinz: This is when one reflects upon one’s behavior, upon the “how” and the “why.” Then cybernetics becomes explicit, and one develops notions like “feedback,” “amount of information,” “circularity,” “recursion,” “control,” “homeostasis,” “dynamic stability,” “dynamic instability or chaos,” “fixed points,” “attractors,” “equi-finality,” “purpose,” “goal,” etc., etc. In other words, one arrives at the whole conceptual machinery of “early” cybernetics, first-order cybernetics; or as I would say, the cybernetics of observed systems.

Yveline: Let me come back to my first question. How did you come upon cybernetics?

Heinz: Very simple. Cybernetics came upon me; because my English vocabulary was at most 25 words.

Yveline: This makes no sense, dear Heinz. You’ll have to explain that a bit better.

Heinz: Okay. Then we have to go back to a time when you, dear Yveline, were not yet born. We have to go back to the year 1948, when parts of Austria were still occupied by Russian troops, and the world was slowly recovering from the wounds of the war. In November of that year, in Cambridge, Massachusetts, Norbert Wiener published a book entitled Cybernetics, with the subtitle Communication and Control in the Animal and the Machine. Also that November, Heinz von Foerster in Vienna, Austria, published a book entitled Das Ged-
I was called upon relatively early to present my story, and present. Most every one of these disciplines had a representative and end with Zoology, my guess would be that among other things Anthropology in an alphabetical list of academic professions was its manifestation. If you were to begin with ventured the notion of “interdisciplinarity,” but this meeting was familiar to my European friends. I don’t know who in these were but a few, whose names I believe would be familiar to my European friends. I don’t know who invented the notion of “interdisciplinarity,” but this meeting was its manifestation. If you were to begin with Anthropology in an alphabetical list of academic professions, and end with Zoology, my guess would be that almost every one of these disciplines had a representative present.

I was called upon relatively early to present my story, and I wrestled valiantly with my 20 English words to make myself understood. The whole thing would have turned into a catastrophe if it weren’t for the presence of Gerold von Bonin, Heinrich Klüver and others who spoke fluently German and who rescued me by translating some of my arguments.

That evening, the group had a business meeting. Before it was over, I was invited to come in. “Heinz,” began the chairman, “we listened to your molecular theory of memory, and your theory agrees with many observations which other theories cannot account for. What you had to say was very interesting. However, how you said it was abominable! Because we want you to learn English fast, we have decided to appoint you to be the editor of the transactions of this conference.”

I was of course speechless. How could I edit articles by such superb writers as Wiener, Mead, Bateson, etc.? How could I organize material of which I, at best, understood only half? But, I thought “Why not try?”. So I accepted the appointment. I immediately proposed that, “Since the title of this conference is so long, it is hard to remember, and for me, hard to pronounce; ‘circular-causal-and-feedback-mechanisms…’ I propose to call this conference ‘Cybernetics.'”

Everybody looked at Norbert Wiener, who sat next to me, and applauded in his honor and in acceptance of my proposal. Deeply touched by the recognition of his peers, tears came to his eyes, and he left the room to hide his emotions.

The sponsor of this, and four more conferences on this topic, was the Josiah Macy Jr. Foundation of New York, who asked me to edit each of the 5 volumes. Since all of that took place in the remote past, aficionados of cybernetics refer to these books as the “legendary Macy meetings on cybernetics.”

Here ends, dear Yveline, my story of how cybernetics came upon me.

Yveline: Throughout the course of the conference, in the conference rooms as well as the corridors of the Cité de la Villette, there was much discussion about first-order cybernetics and second-order cybernetics; mostly to put them opposite each other. For instance, “But you see my dear, in my view this is from first-order cybernetics…” or, “I tell you, one really feels the difference; this time we are in the second-order cybernetics.” Would you attempt to clarify for the people here, what are the fundamental distinctions for first-order and second-order cybernetics? Which change in direction or observation signify second-order cybernetics? Or to paraphrase G. Spencer-Brown, whom you like to cite, “Design me a resemblance!” or, “Design me a distinction!”
Heinz: Let me draw the distinction for you. You followed me when I moved from zero-order to first-order cybernetics. What did I do? I let the underlying circularity of processes of emergence, of manifestation, of structurization, of organization, etc., become explicit. By that I mean that we now reflect about these circular processes which generate structure, order, behavior, etc., in those things we observe. Now Yveline, you can easily guess how to move from first-order to second-order cybernetics.

Yveline: I think so. Let me try. In second-order you reflect upon your reflections.

Heinz: Of course!

Yveline: And now, can I go on to third-order cybernetics?

Heinz: Yes, you could. But it would not create anything new, because by ascending into "second-order," as Aristotle would say, one has stepped into the circle that closes upon itself. One has stepped into the domain of concepts that apply to themselves.

Yveline: Do you mean to say that a second-order cybernetics is a cybernetics of cybernetics?

Heinz: Yes, precisely!

Yveline: Can you give me other examples?

Heinz: Yes of course. For instance, compare a typical first-order cybernetics concept such as "purpose," (as being the equivalent of "why") with a second-order question, "What is the purpose of 'purpose'?” (asking why the notion of "purpose" is used in the first place; i.e. how does it influence discourse, explanations, arguments, etc.?)

One nice feature of this notion is that it relieves one of the need to account for the way things are done which are intended. Every time I tie my shoelaces, or you slip into your pumps, we do it differently. We do it in thousands of unpredictable variations, but the outcome is predictable; my shoelaces are tied, your shoes are on your feet.

On the other hand, it is quite impossible for a physicist to invent the “Laws of Nature” with which to compute our behavior from the initial conditions of my united shoelaces or your pumps in your wardrobe; that is to compute the paths, the “trajectories” and the movements that our bodies and our limbs are taking, which tie my laces or put shoes on your feet. The physicist’s “causa efficientis” is impotent. But the cyberneticist’s “causa finalis” does it all. If the intentions are clear, (independent of the initial conditions) the sensorimotor loops will adjust and readjust our movements until my laces are tied; your shoes are on your feet.

Yveline: Thank you. I feel much better with my shoes on. I see now the purpose of using the notion of purpose. One does not need to know how to get there; one needs only to know the there. This is a very nice feature indeed! Is there a bad feature too?

Heinz: Yes there is. The ugly feature of the notions of “purpose,” “goal,” “end,” is that they can be used to justify the specific ways of getting there; “The end justified the means.” And as we know now, the means can be very ugly indeed. The question should be, “Do the means justify the end?”

Yveline: If we would remember to ask the question this way, the world could be a very different place. But now Heinz, to use your language, tell me how did second-order cybernetics “come upon” you?

Heinz: Through a woman, of course. It was Margaret Mead. You remember the quote I cited in my address? It came from a speech she gave, I think in 1968. Since she rarely uses titles for her talks and almost never reads from a script, I sent her the transcript from a recording asking for her corrections and a title. There was no reply. I urged by telegram; still no answer. Finally, I tried to reach her by telephone at the Museum of Natural History in New York where she was a curator. I was told she was with the Papuas, or the Trobrianders, or the Samoans, and could not be reached. So, I had to edit her speech and invent a title. What struck me was her speaking about cybernetics in a cybernetical way. Thus I chose for her the title, “Cybernetics of Cybernetics.”

It appears to me today that the interest in the peculiar properties of concepts that apply to themselves, (or even need themselves to come into being) must then have been floating in the air. Francisco Varela, the Chilean neurophilosopher referred to them as “self-referential,” the Swedish logico-mathematician Lars Lofgren as “auto-logical.”

Yveline: If I were to ask you to give me the shortest description of the distinction between first-order cybernetics and second-order cybernetics, what would you say?

Heinz: I would say, first-order cybernetics is the cybernetics of observed systems, while second-order cybernetics is the cybernetics of observing systems.

Yveline: Very short indeed! Would you like to expand on this?

Heinz: Perhaps only briefly, because my “shortest description” is nothing else but a paraphrase of the description I made in my address, where I juxtaposed the two fundamentally different epistemological, even ethical, positions where one considers oneself: on the one hand, as an independent observer who watches the world go by; or on the other hand, as a participant actor in the circularity of human relations.
When taking the latter position, (the position I believe taken by systemic family therapists) one develops notions like “closure,” “self-organization,” “self-reference,” “self,” “auto-poiesis,” “autonomy,” “responsibility,” etc., etc. In other words, one arrives at the whole conceptual machinery of contemporary cybernetics, the cybernetics of observing systems, and thus one comes very close to the theme of your Congress: “Ethics, Ideologies, New Methods.”

Yveline: At the conclusion of your paper, On Constructing a Reality, which was published in Paul Watzlawick’s book The Invented Reality, you ask, “What are the consequences of all this in ethics and aesthetics?” You also wrote, “The ethical imperative: Act always so as to increase the number of choices.” And, “The aesthetical imperative: If you desire to see, learn how to act.” Can you add something to the connections between ethics, aesthetics and change; which from my point of view, are the three basic coordinates in family therapy?

Heinz: I like your three coordinates, because all three have a second-order flavor. And, of course, I am delighted that two of my imperatives correspond to two of your coordinates. However, I feel some uneasiness that your third coordinate “change” is not yet accompanied by an appropriate imperative. Let me remedy this situation at once by inventing an imperative for you; the therapeutic imperative: “If you want to be yourself, change!” Is this paradoxical? Of course! What else would you expect from change?

Yveline: You say with so much self assurance, “Paradoxical, of course!” How can you connect change with paradox?

Heinz: Easily! You remember paradox? It yields one meaning when apprehended one way, and one meaning when apprehended the other. What do you do when I say “I am a liar,” do you believe me? If you do, then I must have spoken the truth; but if I had spoken the truth, I must have lied, etc., etc. What is the problem here? Lying? No, the problem is “I,” the shortest self-referential loop. When speaking about oneself, using “I,” magic is performed. One creates oneself by creating oneself. “I” is the operator who is the result of the operation.

Yveline: This is all magic to me. Were does “change” come in?

Heinz: The paradoxical nature of change is much richer than the orthodox “paradox of the liar” which switches from “true” to “false,” and from “false” to “true,” and so on and so forth in dynamic stability. The unorthodox nature of change arises when you apprehend “change” any way you wish to apprehend it, and it will yield something else, otherwise it wouldn’t be “change.” This is, I believe, its therapeutic force.

Yveline: But you said, “If you want to be yourself; change!” How can you be yourself and change?

Heinz: I wanted to appeal to ancient wisdom. It is 2600 years old and comes from the I Ching. Under the 58th symbol “Fu,” or “The Turning Point,” it says, “The ultimate frame for change is the unchanging.”

Yveline: [Smiling] This conversation with you, Heinz, has been a joyful and exciting day of learning. It seems to have mirrored the theme of our conference; ethics and family therapy. It feels as though I’ve discovered a new freedom within a precise and rigorous framework. This framework, clearly defined by the fundamental guidelines of therapeutic practice, encourages communication with another, thereby creating a new space. Does this not broaden our possibilities by redrawing the line of the horizon? If rigor were combined with creativity, the ethics of choice could also be the ethics of change!

At least that is the very personal understanding which I have gained from our encounter. I now have an exquisite diffused feeling of a door which opens onto another door, which opens onto another door . . .
Ladies and Gentlemen: This is a great symposium. I enjoy every minute of it. However, I feel there is a blemish, and this is that Gregory Bateson is not with us. The reason why I, in particular, am sad he is not among us is not only because he would have enjoyed tremendously being here, and you would have enjoyed him very much as well, but because I need his help to put to rest one of the questions which has continually recurred during this conference. Here is the question: Are the states of order and disorder states of affairs that have been discovered, or are these states of affairs that are invented?

As I tend to say they are invented, I need all the help I can muster in order to defend this position, and so invoke the spirit of Gregory Bateson to stand on my side and to help me now for my defense. I will ask him to give us one of his very charming vignettes which pretend to be dialogues between a fictitious daughter and a fictitious father. (I do not think these fictions are too fictitious, indeed.) These dialogues he called Metalogues, and I will read you one now with a few comments on my side. This one is entitled Metalogue: What is an Instinct? It begins with daughter asking father, “Daddy, what is an instinct?” Now, if my daughter, or my son, had asked me, “Daddy, what is an instinct?” I, most likely, would have fallen into the trap of giving a learned, lexical definition. I, for instance, would have said: “An instinct, my dear, is the innate behavior of animals which is unlearned, has a certain complexity, etc.,” or something like that. However, Bateson does not fall into that trap and, moreover, I hope he will satisfy Edgar Morin’s request that the observer include himself in the observation, for an answer to “Daddy, what is an instinct?” he says: “An instinct, my dear, is an explanatory principle.” That is what Newton meant when he said, “I will explain another principle, never!” And what does that mean, please?” asks daughter. (Now I would like to draw your attention to the fact that when the father gives his answer, everything that he says is put in the descriptive domain. It is always associated with saying or with pointing.) Again, daughter: “What does that mean, please?” Father: “Well, you know what hypotheses are. Any statement linking together two descriptive statements is a hypothesis. If you say there was a full moon on February 1, and another on March 1, and then you link these two descriptions together in any way, the statement which links them is a hypothesis.” —“Yes, and I know what non means. But what is fingo?” —“Well, fingo is a late Latin word for ‘make’. It forms a verbal noun, fictio, from which we get the word ‘fiction’.” —“Daddy, do you mean that Sir Isaac Newton thought that all hypotheses were just made up, like stories?” Father: “Yes, precisely that.” —“But didn’t he discover gravity? With the apple?” —“No, dear, he invented it!”

With this Batesonian dialogue I have, as it were, set the stage for what I am going to say. My original plan was to make some historical remarks in regard to the notion of disorder and order; however, during the development of this conference, I realized I should indeed shift my emphasis. There were two points which persuaded me to do this: one, I realized that we have the tremendous pleasure of having Michel Serres here, who is one of the eminent historians and could of course say much better anything historical than I could ever invent; the second point is that I am not the last speaker, and since I feel that this conference has historical significance and what I will say today will be obliterated tomorrow, I am very happy that, in their wisdom, the organizers of this conference have put Michel Serres as the last speaker; moreover, I hope he will satisfy Edgar Morin’s request that the observer include himself in the observation, for he would then also be a contributor to the history of this conference.

To what, then, am I to address myself when I am not addressing myself to history? I shall shift from the his-
torical to the epistemological, because I have the feeling that many of the questions that have been raised during this conference have an epistemological root. Nevertheless, with your permission, I will make two points, where I will have osculations with historical events regarding the notions of disorder and order, and this is when our topic touches a certain branch of poetry, namely, thermodynamics. These points I shall discuss because I have seen that, again and again during this symposium, notions which developed from an interaction between people in the scientific fields let us say, the thermodynamicists and others, a _lingo_, a language, a notation, evolved, which is being used here, alas, in a somewhat loose fashion, and I would like to recall for you the occasion on which these notions arose. After I have made these brief contacts with history just to see the perspectives, I will then try to show that the notions of disorder, order, and organization are conceptually linked to a general notion of computation. This will give me a platform, first to talk in quantitative terms about order and complexity, hence of those processes by which order, or complexity, is increased or decreased; but secondly—and this is the essential justification for my tying these notions to computation—to show that these measures are fully dependent upon the chosen framework (which turns out to be the language) in which these computations are carried out. In other words, the amount of order, or of complexity, is unavoidably tied to the language in which we talk about these phenomena. That is, in changing language, different orders and complexities are created, and this is the main point I would like to make. Since a free choice is given to us which language we may use, we have moved this point into a cognitive domain, and I will reflect upon two types of cognition which I already touched upon in my introductory statement; namely, the problem of whether the states that we call “disorder and order” are states of affairs that are discovered or invented. When I take the position of invention, it becomes clear that the one who invents is of course responsible for his or her invention. At the moment when the notion of responsibility arises, we have the notion of ethics. I will then develop the fundamental notion of an ethics that refutes ordering principles attempting to organize the other by the injunction, “Thou shalt,” and replace it by the organizational principle, that is, organizing oneself with the injunction “I shall.” With this note I have given you a brief outline of my talk. Now, ladies and gentlemen, I can begin with my presentation!

First, I would like you to come with me to the year 1850. This is approximately the time when the First Law of Thermodynamics was well established, one understood the principle of conservation of energy, and the Second Law of Thermodynamics was just in the making. What was observed and what was intriguing people very much at that time was an interesting experiment. I ask you to look with me please at the following fascinating state of affairs. Consider two containers, or reservoirs, of the same size. One is hot, and the other one is cool. Now you take these containers, put them together, fuse them, so to speak, and watch what happens. Spontaneously, without our doing anything to them, the cold container will become warmer, and the warmer will become colder. Now, you may say, “O.K., so what?” But, ladies and gentlemen, if you say, “so what?” to anything, you will not see anything.

The engineers (and as Mr. Prigogine has so properly said, thermodynamics was an engineering science), who were working with steam engines, heat engines, etc., were wondering about the efficiency of these machines. They knew very well that if one has a hot and a cold container, one can put between these two vessels a heat engine that will do some work for us, drilling, pumping, pulling, and things like that. But they also knew that the smaller the temperature difference between these two containers is, the less the chance of getting a heat engine going; this means that the possibility of changing heat into work becomes less and less as the temperatures of the two containers become more and more alike.

When Clausius thought about that very carefully, he realized what is going on here: with the decrease in the difference between the two temperatures, the convertibility, the change, the turning of heat energy into work, becomes less and less possible. Therefore he wanted to give this possibility of being able to turn or to change heat into work a good and catchy name. At that time it was very popular to use Greek for neologisms. So he went to his dictionary and looked up the Greek for “change,” and “turn. He found the word _trope_. “Aha,” he said, “but I would like to talk about _not_ change, because, you see, the longer these processes go on, the less heat can be turned into work.” Now unfortunately, either he had a lousy dictionary, or he could not speak Greek very well, or he had friends who did not understand what he was talking about. Instead of calling it _entropy_, because _eu_ is the Greek word for _non_, as in “Utopia” (no place)—and _utropy_ is what he should have called his new concept—for some reason he called it “entropy,” because he thought that _en_ is the same as the Latin _in_ and therefore means “no.” That is why we are stuck with the wrong terminology. And what is worse, nobody checked it! An incredible state of affairs! So, in proper _lingo_, when these two containers are put together, the _utropy_ of the two increases, because the possibility for changing, for transforming the heat into work becomes less and less.

A couple of years later, two gentlemen, one in Scot-
land, one in Austria, one in Edinburgh, the other in Vienna, one by the name of Clerk Maxwell, and the other by the name of Ludwig Boltzmann, were intrigued by a fascinating hypothesis, a hypothesis which was so crazy that most of their colleagues in the academic community refused even to talk about that stuff. They were contemplating whether it would be possible to think of matter as not being indefinitely divisible, so that at a particular level of subdivision, one could not subdivide any further. That is, one would be left with small pieces of mass. “Mass” is moles in Latin, and for a small thing, one puts on the diminutive suffix, which is -cula, and we get the hypothetical, “molecules” that would not allow further division.

Contemplate whether this hypothesis makes any sense at all. To put you into the perspective of that time, 1871 or 1872, Boltzmann, who was teaching in Vienna, occupied one chair in physics. The other chair belonged to Ernst Mach, whose name, I believe, is familiar to you. Mach went into the Boltzmann lectures, sitting in the last row of the big physics auditorium, and when Boltzmann used the word “molecule” in his lectures, Mach screamed from the last row, “Show me one!” Of course, at that time one could not show one; they were purely hypothetical. Anyway, these two gentlemen, Maxwell and Boltzmann, addressed themselves to the problem of whether we can indeed interpret some of the fundamental laws of physics as if matter were composed of elementary particles, the molecules. They succeeded. They showed that three fundamental quantities in thermodynamics could be expressed in terms of molecular properties. The one is pressure. It is interpreted as a hailstorm of molecules flying against the walls of a container. The kinetic energy, or the speed of the molecules, would determine temperature. And then they came to the notion of entropy, or utropy, as I would say, and here a fascinating thing happened.

They could not explain entropy in purely molecular terms, and had to make an appeal to the cognitive functions of the observer. This is the first time when, in science, the observer enters into his descriptive system. What was necessary in order to handle the notion of entropy, was to talk about the distinguishability of states of affairs. I will give you an example. Take again the two boxes which can be distinguished by their different temperatures: one at a high temperature, the other at a low temperature. Put them together so that they are fused. Now the hotter will become colder, and the colder slowly warmer, and as time goes on their distinction will be lost: they become more and more “confused.” Better, the observer becomes “confused” because he will be unable to distinguish between the two containers, his confusion increasing with the increase of the utropy. Here you have one version of the Second Law of Thermodynamics: utropy increases with confusion. Or, as others may say: entropy increases with disorder.

Seeing the Fundamental Laws of Thermodynamics, which were originally formulated so as to account for a macroscopic phenomenology, to have—in turn—their foundation in a microscopic mechanics, stimulated questions about the potential and limits of these Fundamental Laws.

I can see Clerk Maxwell sitting there, dreaming up some mischief about how to defeat the Second Law of Thermodynamics: “Hmm, if I have two containers at equal temperature, what must go on between them so that, without external interference, the one gets hotter, while the other gets colder?” Or, if you wish, letting order (discriminability) emerge from disorder (indiscriminateness), i.e., reducing the entropy of the system. Maxwell, indeed, came up with a charming proposal by inventing a demon who would operate according to a well-defined rule. This demon is to guard a small aperture in the wall separating the two containers and to watch the molecules that come flying toward this aperture. He opens the aperture to let a molecule pass whenever a fast one comes from the cool side or a slow one comes from the hot side. Otherwise he keeps the aperture closed. Obviously, by this maneuver he gets the cool container cooler (for it loses all its “hot” molecules) and the hot container hotter (for it loses all its “cool” molecules), thus apparently upsetting the Second Law of Thermodynamics. So, Maxwell invented his famous demon, whose name is, of course, “Maxwell’s Demon,” and for quite a while it was thought he would indeed have defeated the Second Law. (Later on, however, it was shown—but that is quite irrelevant to my story—that indeed, the Second Law of Thermodynamics is upheld, even with the demon working. Because in order for the demon to judge whether these molecules are fast or slow, he must of course have a flashlight to see these molecules; but a flashlight has a battery, and batteries run out, and there of course goes the hope of having defeated the Second Law of Thermodynamics!)

But there is another point that I would like to make regarding this demon, and that is that he is the incorporation par excellence not only of any principle that generates distinctions and order, but also of a general notion of computation. One of the most fundamental concepts of computation, I submit, was developed in the thirties by the English mathematician Alan Turing. He exemplified his notion with the aid of a fictitious machine, a conceptual device, the internal states of which are controlled by one, and are controlling the other one of the machine’s two external parts. The first one is a (theoretically infinite) long tape that is subdivided into equal-
sized squares on which from a given alphabet (one may say “language”), erasable symbols can be written. The other part is a reading/writing head which scans the symbol on the square below it and, depending upon the machine’s internal state, will either change this symbol or else leave it unchanged. After this it will move to the next square, either to the left or to the right, and finally will change its internal state. When these operations are completed, a new cycle can begin, with the head now reading the symbol on the new square. In a famous publication, Turing proved that this machine can indeed compute all computable numbers or, as I would say in reference to our topic, all “conceivable arrangements.”

What I would like now to demonstrate is that this machine—whose name is, of course, the “Turing Machine”—and Maxwell’s demon are functional isomorphs or, to put it differently, that the machine’s computational competence and the demon’s ordering talents are equivalent. The purpose of my bringing up this equivalence is, as you may remember from my introductory comments, to associate with the notions of disorder, order, and complexity, measures that permit us to talk about different degrees of order, say: “More order here!” or “Less order there!”; and to watch the processes that are changing these degrees.

Let us now quickly go through the exercise of this demonstration by comparing the machine’s $M$ and the demon’s $D$ actions during the five steps of one complete cycle. Step (i): $M$ reads symbol, $D$ watches molecule; (ii): $M$ compares symbol with internal state, $D$ compares molecule’s speed with internal standard; (iii): $M$ operates on symbol and tape, $D$ on aperture, opening or closing it; (iv): $M$ changes its internal states, $D$ its internal standard; (v): $M$ and $D$ go back to (i). Q.E.D.

Knowing about this equivalence puts us in the position of transforming any ordering problem into a computational one. Consider, for instance, an arbitrary arrangement, $A$, and its representation on the tape of a Turing Machine by using a certain alphabet (language). What Turing showed is that there exists another tape expression, called the “description” of $A$, which, when used as the initial tape expression will allow the machine to compute from it the arrangement $A$. Let me now draw your attention to three measures (numbers). One is the length $L(A)$ (that is, the number of squares) of the tape that is taken up by the arrangement $A$; the second is the length $L(D)$ of $A$’s description (the initial tape expression); and the third figure is $N$, the number of cycles the machine has to go through to compute the arrangement $A$ from its description $D$.

Now we can collect some fruits from our intellectual investment into the notions of machines, demons, etc. I will describe just four:

(i) Order If the initial tape expression, the description, is short, and what is to be computed, the arrangement, is very long ($L(D) < L(A)$), then it is quite obvious that the arrangement possesses lots of order: a few rules will generate $A$. Take $A$ to be $0, 1, 2, 3, 4, 5, 6, \ldots, 999,999, 1,000,000$. A suitable description of this arrangement may be: Each follower equals its precursor + 1.

(ii) Disorder If the length of the description approximates the length of the arrangement, it is clear that we do not understand this arrangement, for the description just parrots the arrangement. Take $A$ to be:

$$8, 5, 4, 9, 1, 7, 6, 3, 2, 0.$$  

I challenge the mathematicians present, or any puzzle wizard, to come up with a rule other than: write $8, 5, 4, \ldots$ that generates this arrangement.

(iii) Complexity I propose to use $N$, the number of cycles for computing an arrangement, as a measure for the complexity of this arrangement. In other words, I suggest that we associate with the complexity of an arrangement the time it takes the machine to compute it. For instance, during this meeting a juxtaposition molecule/man was made with the suggestion—so I understood—to learn about the properties of human beings from the known properties of molecules. In computational jargon such computations are usually referred to as computations $ab ovo$ or, as in our case $ab molecula$. From this point of view it may be not too difficult to see that $N$, the number of computational steps, will be so large (e.g., the age of the universe being too short to accommodate $N$) that $N$ becomes “trans-computational.” That means, we can just forget about the whole thing, for we shall never see the end of it!

(iv) Language The choicest of the four fruits I have left to be the last for you to taste, for it is the most crucial one in my narrative. It is the observation that all the three quantities mentioned before: the length of an arrangement, the length of its description, and the length of computing this arrangement, are drastically changed by changing from one alphabet $a$ to another one, say, $b$. In other words, the degree of disorder or order that can be seen in an arrangement depends on a decisive way upon the choice of language (alphabet) that is used in these operations. Take as an

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example my telephone number in Pescadero. It is 879-0616. Shift to another alphabet, say, the binary alphabet. In that language my number is 100001100010001001011000. Should you have difficulties remembering that number, shift back to the former language!

Take as another example the random number sequence 8, 5, 4, etc., I spoke of earlier (point ii). I suggest shifting from an alphabet that uses Arabic numerals to one that spells out each numeral in English: 8—eight, 5—five, 4—four, etc., and it becomes clear that under this alphabet the former “random sequence” is well determined, hence has a very short description: it is “alphabetical” (eight, five, four, nine, one, etc.).

Although I could go on with a wealth of examples that would drive home again and again the main points of my argument, in the hope that the foregoing examples suffice I will summarize these points in two propositions.

Number one: A computational metaphor allows us to associate the degree of order of an arrangement with the shortness of its description. Number two: The length of descriptions is language-dependent. From these two propositions, a third one, my essential clincher, follows: Since language is not something we discover—it is our inventions!—disorder and order are discoveries or inventions.

With this sequence I have come full circle to my introductory claim that I shall once and for all put to rest the question of whether disorder and order are discoveries or our inventions. My answer, I think, is clear.

Let me draw from this constructivist position a few epistemological consequences that are inaccessible to would-be discoverers.

One of these is that properties that are believed to reside in things turn out to be those of the observer. Take, for instance, the semantic sisters of Disorder: Noise, Unpredictability, Chance; or those of Order: Law, Predictability, Necessity. The last of these two triads, Chance and Necessity, have been associated until even recently with Nature’s working. From a constructivist point of view, Necessity arises from the ability to make infallible deductions, while Chance arises from the inability to make infallible inductions. That is, Necessity and Chance reflect some of our abilities and inabilities, and not those of Nature.

More of that shortly. For the moment, however, let me entertain the question of whether there exists a biological backup for these notions. The answer is yes, and indeed, I am very happy that we have just those people around who were producing this very backup that allows me to speak about an organism as an autonomous entity. The original version came from three Chilean neurophilosophers, who invented the idea of autopoiesis. One of them is sitting here, Francisco Varela; another one is Umberto Maturana, and the third one is Ricardo Uribe, who is now at the University of Illinois. They wrote the first paper in English on the notion of autopoiesis, and in my computer language I would say that autopoiesis is that organization which computes its own organization. I hope that Francisco will not let me down tomorrow and will address himself to the notion of autopoiesis. Autopoiesis is a notion that requires systemic closure. That means organizational, but not necessarily thermodynamic, closure. Autopoietic systems are thermodynamically open, but organizationally closed.

Without going into details I would like to mention that the concept of closure has recently become very popular in mathematics by calling upon a highly developed branch of it, namely, Recursive Function Theory. One of its concerns is with operations that iteratively operate on their outcomes, that is, they are operationally closed. Some of these results are directly associated with notions of self-organization, stable, unstable, multiple and dynamic equilibria, as well as other concepts that would fit into the topic of our symposium.

However, traditionally there have always been logical problems associated with the concept of closure, hence the reluctance until recently to take on some of its problematic aspects. Consider, for example, the relation of an observer to the system he observes. Under closure, he would be included in the system of his observation. But this would be anathema in a science where the rule is “objectivity.” Objectivity demands that the properties of the observer shall not enter the descriptions of his observations. This proscription becomes manifest when you submit to any scientific journal an article containing a phrase like “I observed that—.” The editor will return it with the correction “It can be observed that…” I claim that this shift from “I,” to “it” is a strategy to avoid responsibility: “it” cannot be responsible; moreover, “it” cannot observe!

The aversion to closure, in the sense of the observer being part of the system he observes, may go deeper. It may derive from an orthodox apprehension that self-reference will invite paradox, and inviting paradox is like making the goat the gardener. How would you take it if I were to make the following self-referential utterance: “I am a liar.” Do I speak the truth? Then I lie. But when I lie, I speak the truth. Apparently, such logical mischief has no place in a science that hopes to build on a solid foundation where statements are supposedly either true or else false.

However, let me say that the problems of the logic of
self-reference have been handled very elegantly by a calculus of self-reference, whose author is sitting on my left (Varela). I hope he will not let me down and will give me a bit of self-reference when he speaks tomorrow!

Social theory needs agents that account for the cohesiveness of social structure. Traditionally the agents are seen in sets of proscriptions issued with some dictatorial flavor, usually of the form “Thou shalt not…” It is clear that everything I said tonight not only contradicts, but even refutes, such views. The three columns, autonomy, responsibility, choice, on which my position rests, are pointing in the opposite direction.

What would be my counter-proposal? Let me conclude my presentation with a proposition that may well serve as a Constructivist Ethical Imperative: “I shall act always so as to increase the total number of choices.”

Discussion

Paul Watzlawick [Stanford]. Heinz, would you say that, in addition to what you call the “ethical imperative,” there is still a further conclusion to be drawn, and that is that if you realize that you are the constructor of your own reality, you are then also free, and so the question of freedom enters, so there is a deontic quality to what you were saying?

Von Foerster. My response is: Yes, precisely.

Karl H. Pribram [Stanford Medical School]. Heinz, I agree with everything you said, and with what Francisco says, but I have a problem. And that problem is, given the kind of framework you have just “invented” for us, and which I like very much, why is it that when I go into the laboratory, something happens that surprises me? When I know how things are supposed to go, and they don’t.

Von Foerster. You are a very inventive character—you even invent your surprises. For instance, when I was talking about the two containers that are brought together and said that a most surprising thing is taking place, namely, that the hot one is getting cooler, and the cool one getting hotter, I felt that apparently this was seen as a joke—of course, everybody knows that, so what? But my hope was that you would try to see this phenomenon as if for the first time, as something new, something fascinating. Let me illustrate this point. I don’t know whether you remember Castaneda and his teacher, Don Juan. Castaneda wants to learn about things that go on in the immense expanses of the Mexican chaparral. Don Juan says, “You see this…?” and Castaneda says “What? I don’t see anything.” Next time, Don Juan says, “Look here!” Castaneda looks, and says, “I don’t see a thing.” Don Juan gets desperate, because he wants really to teach him how to see. Finally, Don Juan has a solution. “I see now what your problem is. You can only see things that you can explain. Forget about explanations, and you will see.” You were surprised because you abandoned your preoccupation with explanations. Therefore, you could see. I hope you will continue to be surprised.
Most likely, everything that could be said about Warren McCulloch has been said already and, most likely, everything that McCulloch ever said, had never been said before.

What to say now about Warren McCulloch and what he did say.

I am most grateful to Seymour Papert, who concluded his introduction to the first published collection of some of McCulloch's essays, *Embodiments of Mind*¹, by reminding us of one of his favorite teaching aids to help his baffled disciples to overcome their beafflement: “Don’t bite my finger, look where I am pointing.”

What is he pointing at? For me he is pointing at pointing. What do I mean by that? Let me give examples. At one place² he discusses potential and limits of what we do or what we do not know. And then:

> “With all of these limitations and hazards well in mind, let us ask whether a knower so conceived is capable of constructing the physics of the world which includes himself,” and then he continues: “But, in so doing, let us be perfectly frank to admit that causality is a superstition.”

The first part connects McCulloch to himself; in the second part he connects with Ludwig Wittgenstein, a connection about which I shall talk later.

The fascinating problem of inclusion appears at another place³, where he talks about constructs in theoretical physics, “… we invent surprising regularities … or invariants, which I call ideas, whether they are theorems of great abstraction or qualities simple sensed.” He noticed they are not included into physics proper and he proposes:

> “… let us now compel our physicist to account for himself as a part of the world. In all fairness, he must stick to his own rules and show in terms of mass, energy, space and time how it comes about that he creates theoretical physics. He must then become a neurophysiologist (that is what happened to me), but in so doing he will be compelled to answer whether theoretical physics is something which he can discuss in terms of neurophysiology (and that is what happened to me). To answer “No” is to remain a physicist undefiled. To answer “Yes” is to become a metaphysician—or so I am told.”

No! Nobody told him that; I say it is what he wanted to be. Remember him telling us of a desperate Clerk Maxwell who addressed himself to an in principle undecidable question, namely, how to explain “thought” *ab ovo,*⁴ that is⁵:

> “He (Maxwell) cut short his query with the memorable phrase, ‘but does not the way
to it lie through the very den of the metaphysician, strewn with the bones of former explorers and abhorred by every man of science?" To which McCulloch responds, "Let us peacefully answer the first half of this question 'Yes', the second half 'No', and then proceed serenely."

Indeed, let us join McCulloch and proceed serenely with him in a quest for treasures that will lead us through spaces cluttered with horrors for the faint-hearted. Even those bones can not scare us because, as he says later, he expects some of his own to fall besides them.

And now, let this journey be a party by inviting not only metaphysics by herself, but also our friends from Crete and Elea, and at last but not least Carlos Castaneda’s brujo Don Juan in the company of "Uncle Ludwig", I mean, of course, Ludwig Wittgenstein.

**Metaphysics**

The charm of her character lies in her elusiveness. Very much like her sister Language, who always runs on two tracks, so when you think you catch her as denotative, she jumps to be connotative, and if you think you have tracks, so when you think you catch her as denotative, she is when we become metaphysicians. We become metaphysicians, whether or not we call ourselves such, whenever we decide upon in principle undecidable questions.

Questions of decidability have of course ancient roots: "Can a circle be squared?", "Can an angle be trisected?", etc., and then conditions are listed under which these problems are to be solved: "With ruler and compass only!", "With ruler and conchoidograph only!", etc.

These questions floated amongst the learned for about two millenia until Gauss showed the unsolvability of some and the solvability of others. It was Hilbert and Ackermann who introduced the term “Entscheidungsproblem” for similar questions in formal logic, a term later used by Godel and Turing to demonstrate undecidability regarding some propositions in Russell’s *Principia* and in Hilbert’s *Funktionskalkul* respectively.

The formal fireworks illuminating these profundities kept us from noticing such decidables in the use of language and in our daily life. We know how to talk, but, I say, we have not the slightest idea how we do it, how we ever learned this. Since these faculties can be mapped onto universal Turing Machines, and since for these the general analytic problem is unsolvable in principle, these faculties, in turn, are analytically undeterminable.

It is easy to find other such undecidable questions, for instance, “How did our Universe come about?” Nobody was there, how could we know? Nevertheless, there are many different answers. Some say it was an act of creation a few thousand years ago; others suggest the Universe had no beginning and will have no end: it is a self-generating system in a perpetual dynamic equilibrium; others insist that what we see today are the remnants of a "Big Bang", perhaps 10 or 20 billion years ago, of which we can still hear a faint noise through large microwave dishes. In this short list I have not mentioned what the Eskimos, the Arapesh, the Ibo, the Balinese, and all the others would say should we ask them about this event. In other words, “Tell me how the Universe came about, and I tell you who you are!” Or tell me about “consciousness”, and I shall know something about you! How come these many different answers for apparently one and the same question? This is clear, because only those questions that are in principle undecidable we can decide.

Why? Simply because all the decidables are already decided by the choice of the framework in which they are asked. It may take a moment of reflection, or very hard work to decide them, eight years, for instance, for Andrew Wiles to prove Fermat’s last theorem, by then 200 years old. But ultimately—thanks to the inescapable force of logic—we shall be rewarded with a definite “Yes” or a definite “No”.

A quite different affair is it with in principle undecidables. We are under no compulsion, not even by the "inescapable force of logic" which way to decide: we are free to decide in this or that way, and then we have to take the responsibility for our decision. But who wants to take responsibility? Pontius Pilatism, hierarchies, objectivity, the "selfish gene", and other devices provide us with escape routes for avoiding it. Clearly, making decisions on in principle undecidable questions is not for the faint-hearted. Here is another one to be decided by each of us:

“Am I apart from the Universe? That is whenever I look I am looking as through a peephole upon an unfolding universe.”

“Am I part of the Universe? That is when-
ever I act, I am changing myself and the universe as well.”

McCulloch clearly does not avoid making decisions. He opts for the one which includes himself in the world of his construction. But in doing so, he had to free himself from the constraints of causality, “... let us be perfectly frank... causality is a superstition.”

Our Friends from Crete and Elea

McCulloch never wanted to cut the umbilical cord that connects him with the intellectual matrix of the pre- and post-Socratic philosophers. In fact, he saw them all sitting around his kitchen table, arguing with each other ‘til the wee hours of the night.10

“Anyone who had the good fortune to listen to Wiener and von Neumann and Rosenblueth and Pitts wrestling with the problems of modern computing machines... has a strange sense that he is listening to a colloquy of the ancients.”

It is the life of the discussion, not its results, to which he is pointing: the logical curlicues, the frictions, the contradictions, the tensions that keep the dialogue going.

While he takes the notion of invariants from Parmenides, “All change is contradictory, therefore it does not exist,” he follows Heraclitus, “All change is contradictory, therefore contradiction is the essence of life,” and appreciates our Cretean friend’s ultimate contradiction, the “Liar’s Paradox”, as the ultimate logical perpetual motion machine: from “false” it generates “true”, from “true” it generates “false”, from “false” it generates... and so on and so forth. Or take McCulloch’s fascination with Zeno’s “in between”, the argument of immeasurability: “Given two existents, there must be at least one in between.”

This argument is a generatrix for infinity with finite means. When I was a student, a 6-year old asked me to write an infinite number, “Is it so long as to go to the moon?” “No, not at all,” I suggested. “Write a number consisting of 1’s only, where each 1 stands in between two other 1’s. He was happy. The next day he showed me an infinite number and said, “You have to read it around.”

If only our teachers would understand that!

But who is suddenly crushing the party? Clearly an elderly man, lively, dynamic and full of enthusiasm: “Your logic is not rich enough to discuss all this and still keep hoping it will make sense!”

It is Gotthard Gunther, the eminent Hegelian and student of Eastern philosophy. Warren met him in Richmond, Virginia, in the early sixties, a fugitive from Hitler’s Germany, lost for a while in South Africa, and then living on a tiny grant for work on non-Aristotelian logic in Richmond.

“Heinz, here is a man who asks all the right questions. Invite him to your Lab.” This was Warren’s voice over the telephone at 2 o’clock in the morning.

Of course, I invited Gunther, and he stayed with us for many years, teaching us his “place-value logic” which requires a “place” to be stipulated first into which a proposition may enter before its fate can be considered, namely, to become either true or false. Logical richness is now created by being in a position to reject the entire proposition in its affirmative or negative mode.

If only our revolutionaries would understand that: “Down with the king!” can turn into a commercial for, or even paid by, the king.

Gotthard Gunther wrote perhaps the most touching, the most admiring, and the broadest eulogy for Warren McCulloch11. He is cordially welcomed to our party.

Don Juan and “Uncle Ludwig”

Carlos Castaneda wanted to learn “how to see”. Don Juan, a brujo living in Sonora, a Northern State of Mexico, accepted him as a student. On one morning they broke up very early, the sun not yet over the horizon, and began their march through the dense chapparal of that region. After about one our walking Don Juan stopped suddenly and pointed in one direction, “Carlos, did you see that?” “No”, he replied “I didn’t see a thing.” They continued their journey with the sun now rising. Don Juan: “Carlos, did you see this?” and Carlos again: “What?” And so it went again and again with the sun burning down onto the two travellers, and Castaneda seeing nothing. Finally, Don Juan stopped and turned to Castaneda: “Carlitos, I know why you can’t see. You can see only that what you can explain. Don’t do that, Look!”

In explanations we wish to establish links between one affair and another one. But here are Wittgenstein’s propositions12:

5.135 There is no possible way of making an inference from the existence of one
situation to the existence of another entirely different situation.

5.136 There is no causal nexus to justify such an inference.

5.1361 We cannot infer the events of the future from those of the present. Belief in the causal nexus is superstition.

And there is again McCulloch: “. . . let us be perfectly frank to admit that causality is a superstition.”

Through common friends living in Chicago he must have heard of my (very!) distant relationship with Ludwig Wittgenstein. So, whenever I made a slip in a logical argument, he wagged his forefinger in front of my nose and said, “What would ‘Uncle Ludwig’ think about that?!”

In fact, it was more through the friendship of my mother with Margaret Stomborough, Ludwig’s sister, that I ever met him when I was a little boy. I just had passed the entrance examination into Gymnasium, the Austrian junior highschool, when my mother took me along for a visit at Aunt Margaret. It happened that her brother was there as well, and after a while he asked me what I wanted to become when I am grown up. I knew exactly what I wanted to be and said “ein Naturforscher”, a naturalist, who, in my mind, is a combination of Raul Amundsen and Marie Curie. “But then you must know a lot” he said. Since I had just passed my entrance examination, I could confidently say “Yes, I do know a lot.” He looked at me smilingly and seriously, “But you don’t know how right you are.” (How was I to understand that?)

When as a student I took courses from the founders of the Vienna circle, Carnap, von Schlick, Menger, Hahn and others, I came upon Wittgenstein again, this time through his *Tractatus*. I was taken immediately by its precision, depth, clarity and brevity (only seven propositions (not counting the sub- and the sub-sub- etc. propositions)), and there were times, when I knew almost the entire *Tractatus* by heart. Fortunately, a cousin of mine, a nephew of “Uncle Ludwig”, Paul Wittgenstein, was affected by the *Tractatus* in very much the same way as I was. So, as a game, we tested each other’s competence by rattling off, on command, propositions x,y,z, etc. Already at the early stages of my assimilation of the *Tractatus Logico-Philosophicus*, I felt it should be called *Tractatus Ethico-Philosophicus*. The propositions that set this feeling in motion are under point 6, where he discusses the general form of propositions. This culminates in proposition 6.421:

6.421 Es ist klar, da sich die Ethik nicht ausprechen ist.

or in my translation into English (the official one, I feel is just wrong):

6.421 It is clear, that ethics cannot be articulated.

What does he want to say with this cryptic statement? How can one understand it? My understanding was to adopt for myself the following rule: For any discourse I may have—say in science, philosophy, epistemology, therapy, etc.—to master the use of my language so that ethics is implicit.

How can one justify this understanding? Or better, who could justify such an interpretation?

As it came somewhat late in my life, the justification came from an experimental epistemologist. Among the many other clues, I found in McCulloch’s “A Hierarchy of Values Determined by the Topology of Nervous Nets” the answer to my problem. It is the topology of our neuronal organization which, by its double-closure, allows the so called “value anomaly” to arise. Here A is preferred over B, B over C, and finally—Oh horror!—C over A. That is what experiments teach us. What the epistemologist is telling us is that, keeping this in mind, the notion of “hierarchy”, the notion of a *summum bonum* collapses.

With this, the pedestal of the moralist, who always tells the others how to act: “Thou shall . . .”, “Thou shall not . . .” vanishes, and we are left to our own devices: “I shall . . .”, “I shall not . . .”: ethics becomes implicit, responsibility explicit.

When Rook McCulloch chose the papers that should go into the *Collected Works by Warren S. McCulloch*, she placed his vision of the *Twilight of the Gods*, the Norse Ragnar Rokr, at the end of the collection. Here is the end of that end:

No more would I go along with Plato in exiling the poets, who play on the limbic cortex. Not even they are powerful enough to evoke the whole of man. If we are to survive our own destruction of our world and of ourselves by our advance of culture we had better learn soon to modify our genes to make us more intelligent. It is our last chance, that by increasing our diversity we may be able to make some sort of man that can survive without an ecological niche on this our earth. We may be able to live in gas masks and eat algae and distill the ocean.

I doubt that we have time enough.

We are, I think, nearing the end of a course that left the main line of evolution to over-specialize in brain to its own undoing.
Time will tell.
And here the beginning of the beginning\textsuperscript{18}

Lift up your hearts and sing! Gather the clan,
The human brotherhood. Bend to the clay.
Build with exultant song and eager cry
Our desolation’s dream, our nature’s plan
Our earth, a temple to the yearning heart.
A city for the Soul. Let love hold sway,
And stupid selfishness and lonely lie
In silence end; while beauty that fore ran
Our wisdom shares in the language of a finished art
Its tranquil mood ’till work is done with play;
And we, the transients of life’s finite span,
Make room for greater man and gladly die
Leaving to them the wages of our day.
The deep communion of the whole of man.

Notes

\textsuperscript{1}McCulloch, W.S.: \textit{Embodiments of Mind}, The MIT Press, Cambridge, Massachusetts (1965)
\textsuperscript{2}McCulloch, W.S.: “Through the Den of the Metaphysician” in Ref. 1, p. 148.
\textsuperscript{3}McCulloch, W.S.: “Why the Mind is in the Head” in Ref. 1, p. 71
\textsuperscript{4}From the (very) beginning.
\textsuperscript{5}Ref. 2, p. 143
\textsuperscript{7}Hilbert, D. and W. Ackermann: \textit{Grundzuege der theoretischen Logik}, Springer, Berlin, Chapt. 3 (1928).
\textsuperscript{10}Ref. 2, p. 143.
\textsuperscript{15}McCulloch, W.S.: “A Hierarchy of Values Determined by the Topology of Nervous Nets”, in Ref. 1, 40–5 (1965)

\textsuperscript{16}\textit{summum bonum}: The chief or supreme good: properly a term of \textit{Ethics}; often in trivial or jocular use.
\textsuperscript{18}McCulloch, W.S.: “The Natural Fit.” in Ref. 1, p. 347.

Computer graphic by Herbert Brün
The Need of Cognition for the Cognition of Needs

(1972)

Herbert Brün

Cognitive Processes and Societal Problems

We know enough, today, about social problems and cognitive processes to make statements: Social problems are interconnected with cognitive processes. Those who attempt to study and to answer the questions posed by one, sooner or later find themselves involved with the study of questions raised by the other. Answers to so involved a system of interlocked networks of questions will be found only if it is made possible to complement existing theories and conjectures with concrete opportunities for the examination of both, processes and problems, for the observation of their real-time manifestations, and with the still outstanding step from sophisticated documentation toward effective and problem-solving explanation.

It is necessary to recognize that we who set out to study, and to act upon, cognitive processes and social problems are ourselves members of the set of our objectives. The time-honored distinctions, therefore, between theory, practice, fundamental and applicable research, development, etc., no longer hold, when the subjects are cognitive processes and social problems. In fact, all active attitudes, scientific and creative, must move simultaneously and together, none emphasized at the expense of the other, each emphatically appropriate at a given moment to a given observation or purpose.

The objective is the understanding of cognitive processes and the solution of social problems. We agree that each one of us approaches the objective differently. We wish to pool our capabilities without having to sacrifice this diversity.

Together with a steadily growing awareness of social problems the definition of the concept social problem has broadened considerably. Knowledge about society, acquired by the natural and the social sciences, could and should be brought to bear on this state of affairs. Of urgency is, therefore, specifically any work, theoretical and practical, which will bridge efficiently the wide gap between idea and implementation.

Current terminology, when referring to social discontent, contains words like alienation, credibility gap, communication break-down, generation gap, brainwashing, information distortion, etc. These terms, although often correctly describing observed results, do not, in most cases, correctly identify the causes. All, however, converge in accusing a phenomenon which might be called: negative communication. Not communication, but the message keeps breaking down.

Just as positive communication, so is negative communication indicative of social relationships, especially as these realities manifest themselves in language, behavior, conceptual use of words, articulations of opinions, expression of emotions, and intuitively preferred positions on issues like conflict, disagreement, fairness, prejudice, rights, privileges, power, poverty, justice, etc.

The content of communicative processes — the message — is generated by and dependent on numerous interactions of information with language, with knowledge, with images, with memory, with prediction, and more, both on the sender’s and on the receiver’s end of the channel-system. Any malfunction in these interactions produces either unintended or undesired messages: negative communication. And negative communication causes, not only in the emotional domain, an increase of malfunctions in interactions, thus producing more unintended and undesired messages.

This vicious circle, which indeed threatens to become a blind alley of life in our society, can be stopped; not
however at the level of messages and communication, but rather where the interactions tend to malfunction. Interactions between individuals, groups of people, sectors of society, are less vulnerable to misrepresentations of facts and ensuing disagreements, than to misinterpretations of images and the ensuing cloud of alienation. It is for all participants and co-sufferers in the problem a clash of cognitive structures that had their origin far from any present conflict, and long before it arose.

More knowledge about the origins of cognitive structures in human beings will uncover some vital and hitherto unknown rules of the game called interactions, and it promises, therefore, to be the urgently needed but still missing link that could connect the theories of concerned science with such practice as would effectively benefit a very disturbed, if not even seriously damaged society.

Societal problems appear in every society. The society gives itself and its administrative and executive members the assignment to solve these problems. The problem will, however, not be solved

when the assignment is given and taken without confidence;
when the assignment is ill-formulated, open to conflicting interpretations, prone to be misconstrued arbitrarily;
when concerned sectors of society, be it in concert or in independent simultaneity, claim to be left in doubt as to whether the assignment is taken seriously, is being mishandled, has been refused, or is beyond the capability of the assigned members of society;
when for any one, or all, of such reasons mutual alienation separates precisely those strata of society that ought to be most responsive, mutually, in order to successfully respond to the assignment of solving social problems.

If the solution of a particular social problem appears to be a prerequisite for any attempt at the solution of many other social problems, then this solution may well be given the high priority status of a need. For any negligence, procrastination, or refusal—though ever so cleverly hidden behind pretexts quoting helplessness, ignorance, circumstances of times—will generate, inevitably, the reactive phenomenon called discontent.

Requirements

Alternatives

Discontent is the manifestation of a conflict between two images, both, somehow, generated by a human being: my image of how “things” are (ITA) and my image of how I would prefer “things” to be (ITB).

Looking at this manifestation as one of mere existence, we have a report. Looking at it as a desire for some change, we have a problem.

On this level of discourse it is possible to enumerate the various procedures that, alternatively or in combinations, will either stop the report (the problem disappears) or solve the problem (the report disappears):

1. Remove the human being.
2. Change ITA until it fits ITB.
3. Change ITB until it fits ITA.
4. Change “things” so that ITB = ITA.
5. Stop looking.

Combinations that contain the first or last of these procedures may be implied in projects proposed and funded elsewhere.

Upon contemplating the three remaining procedures one immediately faces several requirements:

Image

The concept of “image” requires completion:

1. How are images generated?
2. What and who generates the image?
3. Through what process is an image conserved?
4. How does an image act upon the person in whom it acts?
5. What does an image do, generate, cause, in and to the person in whom it acts?
6. What are the necessary and sufficient conditions under which it would become possible
   (a) to conceive of “image” as a process, simultaneously caused by preceding processes and causing subsequent processes?
   (b) to create, for use by any observer, an adequate and appropriate formal representation of such a process, where the formalism allows for and satisfactorily indicates the dynamic relations and the flow-ambivalence of any such process?
   (c) to simulate the process and, eventually, to extend it, in an interactive man-machine system?

The question can no longer be whether images should be tolerated as arguments for behaviors, actions, decisions. The question is rather whether one can at last trace the images that unquestionably are accepted as arguments.
The concept of “things” requires amplification:

Upon removal of the quotation marks, “things” should not only be all that is referred to in potentially verifiable statements, but also all that is referred to in potentially unverifiable statements.

Anyone’s image of how “things” are (ITA) and the image of how anyone would prefer “things” to be (ITB), both belong to the “things” that are, regardless of whether the “things” referred to in the images are, or are not, referred to in anybody else’s ITA.

Most, if not all, human actions can be interpreted as statements which manifest in movement, language, expression, etc., the actual state of the acting person’s ITA and ITB. This interpretation, however, is made all but impossible by certain consequences of the human use of human actions. One consequence is of particular importance here: underlying all human discourse lurks a notion according to which the effective communicativity of discourse depends on its compatibility with a “factual reality” which is considered independent of individual images. Rational reasoning based on this notion tends to look down upon individual images, conceding to them a merely marginal and phenomenological placement of existence in “factual reality”, if any place at all. In a context of cognitive studies for the solution of social problems such a notion still may generate most necessary, but no longer the sufficient, conditions for either research or concrete implementation.

The student of social problems and cognitive processes must be capable and be equipped to observe, and then to present analyzable documentation of, at least, three “things” and their relations:

1. A person’s ITA and the evidence which it includes and to which it is compatible at generation time.
2. The process by which (1.) is modified until it becomes transferable to some form of manifestation satisfying the notion of compatibility with “factual reality”.
3. The result of (2.), in particular with regard to the traces left in it from (1.).

Such an observer’s capabilities and equipment together define the “Cognitive Laboratory” necessary and sufficient for the desired participation in, and the desired experiencing of, any process connecting the cognitive process in human beings with the social reality wherein the individual sees itself, and with the social reality which sees the individual.

So amplified, the concept of “things” will invite and encourage people of all walks of life to come to such a Cognitive Laboratory, to be observed, to observe themselves and others, and to learn how to articulate their ITA and their ITB with less and less compromise. Together, and as a continuously functioning system, the users and the Lab form the Interactive Interface which connects, without representatives, cognitive processes with social problems, so that this connection becomes accessible to anyone concerned.

Change

The concept of change is to include its own ambiguity:

a. There are “things” that can neither change, nor be changed.
b. There are “things” that can change, but not be changed.
c. There are “things” that cannot change, but can be changed.
d. There are “things” that can either change, or be changed.
e. And then there are the “things” that continuously change, or continuously are being changed, or both, and simply never stay the same.

In keeping with what has been noted previously concerning “Image” and “Things”, the statements above may not reflect any knowledge of some “natural” states of affairs. They certainly, however, reflect part of the gamut of notions with regard to “change” as manifested by social human beings in reference to their ITA and ITB.

If my ITB implies to me that something ought to change or to be changed, I do not necessarily manifest, thereby, a social problem. A social problem becomes manifest, however, as soon as I, alone or with a group of people, begin to hold the society, of which I am a part, responsible for the impossibility to solve the conflict between my ITA and my ITB.

A society that knows but refuses to solve its social problems is a social problem.

In the attempt of solving social problems society has established links of communication between its members, such that some members represent society, and some members either are, or represent, the discontent. The result of any meeting of these two groups depends on various sets of powerful factors. The set that interests us here is among the most powerful and refers to the five statements listed under Change. The meeting will be fairly successful if the discussion deals with “things” on whose properties with regard to Change the participants can agree.

It can be fully successful only if the agreement is not due to some misunderstanding. If, due to some misunderstanding, no agreement can be reached, the meeting not only will fail in solving the problem, but will actually amplify it.
Misunderstandings result, where the partners, alternatively or simultaneously, confuse b with c, or, meaning to speak of d find themselves talking of e or answer with a to a statement using c, in short: when people are unable to transfer their images undamaged into the linguistic domain.

Such meetings (and, most of the time, misunderstandings) are taking place by the hundred thousand every day, on all social levels, among any variety of partners one could name. The thickening cloud (nourished by scenes in the home, in schools, industrial plants and offices; propagated by administrative and executive bodies of all kinds among themselves and when facing the whole or parts of the public) pollutes the social atmosphere, and is rightly called the phenomenon of alienation. More than anything else alienation is caused by the inability of dealing with the concept of change. (Which is not yet equal to, or equivalent with, the implementation of change.)

All meetings of this kind ought to discuss at least three conflicts and their causes, and not just one. A imagines himself in a conflict caused by B. B imagines herself in a conflict caused by A. Both have to face up to the conflict between their images. If, instead of discussing the causes of all these conflicts, A disputes B’s rights to her conflict and B retaliates in kind, then this leads to the usual deadlock, out of which there lead only two ways: indefinite postponement with mutual frustration, or mutual display of power with explicit or implicit violence. Both ways, unsurprisingly, alienate the participants of the meeting, not only from one another, but also from the issue which the meeting was to investigate.

Towards a Cognitive Technology by way of Heuristic Research

Assignment

Let us, for the sake of cognitive studies, distinguish between the engineer and the technologist: let the engineer’s assignment be implementability, the technologist’s assignment be applicability. Both have to study, to design, and to produce; occasionally even to create.

If scientists wish to examine the validity of a hypothesis, they usually provide a context in which the hypothesis can be shown either to maintain itself or to collapse. The scientist turns technologist in determining the applicable context. The scientist turns engineer in designing and implementing the experimental set-up, the context.

Let us now, for the sake of the study of cognition, reassemble the assignments of the scientist, the technologist, and the engineer into one assignment given to one person: the cognitive technologist. If I am a cognitive technologist who wishes to examine the validity of a hypothesis, then I shall study the hypothesis until I am able to provide a description and a design for implementation of that context, that experimental set-up, in which this particular hypothesis will maintain itself.

Cognitive Technology

Whatever my role and importance for the rest of the scientific establishment may be: as a cognitive technologist I am an indispensable member of any team that attempts to study cognition. A few reminders will explain.

Cognition, in order to be studied, is said to be, not the knowledge acquired, but the process of acquiring knowledge. All knowledge, once acquired, turns up as a hypothesis which, then, either maintains itself or collapses in a given context. The process, however, by which this knowledge had been acquired maintains itself, regardless of the fate of its acquisition. Furthermore one may state: the process by which knowledge was acquired is a context, a biological experimental set-up in which the acquired knowledge was able to maintain itself, until it became a hypothesis to a testing scientist. It is, therefore, worthwhile investigating the following thesis:

Every hypothesis and, in fact, every statement either is, or represents, or contains, knowledge that was able to maintain itself in the context of the process that acquired it. Cognition, therefore, must be a member of the set of all contexts in which a given hypothesis or statement can maintain itself.

Cognitive Technology is the scientific discipline which:

1. searches for contexts in which hypotheses and statements can maintain themselves;
2. designs situations and facilities which allow for the demonstration and intensive study of such contexts;
3. studies the properties of these contexts and constructs models reflecting the results of those studies;
4. compares these models with other models reflecting the studies of biologists, neurophysiologists, biophysicists, biochemists, yes, even linguists, anthropologists and last not least, psychologists and philosophers;
5. will eventually expose a preferred set of probable anatomies of cognition.

Heuristic Research

It is now necessary to draw a significant distinction between the study of cognition and the study of knowledge. In theory, and with the help of carefully struc-
tured formalisms, it is possible to draw this distinction and to maintain it as rigorously as the theoretical equipment permits. In practice, however, this is quite difficult. There arises a non-trivial problem, whose satisfactory solution may be one important step toward a valid description of cognitive processes.

The dynamics of a process communicate themselves to the observer only through the traces which the process generates in the observer’s domain of perception. The observer forms an image of the process and its dynamics by “interpreting” the traces it left behind. In order to be available for interpretation, the traces must be distinguishable. Traces can be distinguished only if they are offset against an environment or background which is void of the kind of traces under study.

The dilemma for the student of cognition lies in a particular ambiguity of the traces that the student perceives. Although they were left by a process of cognition, the student no sooner distinguishes them, and they become traces of knowledge within the student, or the observed partner, or both. At the same time, the environment, or background, against which the traces were to appear in outline, is not void at all, but full of traces left by processes of cognition; only that these traces are indistinguishable for the observer and, therefore, face the observer as one distinctive trace of no-knowledge. The consequence of this imagery sounds perturbingly absurd: if the observer is to study cognition, then the observer has to turn to the study of knowledge with the determined effort to search for all that which knowledge and no-knowledge have in common. This means that the student of cognition deals with the same traces as would the student of knowledge, but interprets them differently. The student of knowledge will tell us that the traces exist and why they are still there, maintaining themselves. The student of cognition will tell us how they got there in the first place and why, be it successful or not, there is something that submits itself to the test of survival.

At this point, and in defiance of all apparent absurdity, enters the concept of heuristic research conducted by the cognitive technologist. The cognitive technologist assumes that every living organism needs to be aware of the conditions under which it can continue to be a living organism, continue to maintain itself. This state of awareness is sustained by a process that continually tests for conditions. These tests and their outcome orient the organism towards its “judgement” of the prevailing conditions. If, according to this “judgement”, something appears to be amiss, then a search for the missing condition is initiated. The cognitive technologist, now, experimentally assumes that the process of cognition is either part or all of this search for the missing condition. The particular search itself will end as soon as the missing condition is found and implemented. Knowledge would then be the network of all traces left by the halts of the process of cognition. The process itself thus can not be observed when it has halted, but only when it is in action, when it is in search, while it generates the conditions which the organism will accept or reject. In order to study the process of cognition in living organisms, the investigator must create an experimental set-up of a model situation, wherein we can observe the process rather than the traces of its stops.

This is a heuristic set-up, and the most applicable compatible model that could, by analogy, represent the subject and the objective of this research. A typical assignment for cognitive technologists is the task of imagining, designing, and constructing such a model, to teach people to use it, to use it themselves, and to apply it to the solution of problems and to the implementation of these solutions.

Wants

If a problem wants to be solved then the solution of the problem wants to be made possible. An analysis of those two wants frequently leads to an understanding of the conditions (effort, time, budget, equipment) and dimensions (quantitative and qualitative) that might allow the satisfaction of one want to become applicable to the satisfaction of the other.

The process of cognition takes place not only in the people who study it but also in the people who either are or have the problems that are to be solved. If the study of relationships between cognition and problems is to become practically applicable as soon as possible, then the ranges and the domain of this study must be broad, of great variety, flexible, and as accessible as possible to all kinds of proposed solutions, problems, experiments.

What is required here, then, is accessibility in several senses and directions. The cognitive technological experimental set-up must be large and flexible in order to be accessible to the high level of problems and the large number of people involved; accessible to parallel and simultaneous real-time simulations of environmental, psychological, neurophysiological, and social conditions; accessible to itself in order to actually self-organize into a crystal, or a network, or a circuit, or a model of a brain, whatever is wanted, so that crucial questions can be answered quickly, ambitious hypotheses be tested rapidly, and the vital link between theory and practice be efficiently established as early in the game as possible.

What emerges, indeed, is the need for a highly functional edifice of ample dimensions which, in the eyes of the cognitive technologist, not only would contain the modular equipment that is to serve us in an immense variety of constellations, groupings, and interlocking per-
mutations, but which as a whole, would itself be one of the modules in the experimental research design: a veritable house of heuristics (see notes 1 and 4).

It is proposed that careful attention be given to this emerging need, that a time be set when a first design of such a project might be met with encouraging comment and criticism, and that a plan be initiated that foresees and begins now with the preparation for the eventual realization of this far-reaching project.

Such a plan would be able to draw immediately on work done, or in progress, at many locations, where support and coordination combined with practical implementation and real-time observation would bring to useful fruition, that which would otherwise ineffectively linger in theoretical limbo. All such work might function in the context of the mentioned plan as a module, which, modulated with other modules of different structure and intent, would reach into regions of questions, answers, and conjectures, that, standing alone, it could not tackle.

No problem, be it an individual’s, a family’s, a community’s or a nation’s, no problem can be solved unless it knows how to state itself. The study of cognition on cognitive models and people and situations will give to the problems the voice and the word for the statement of need, and thus necessity. Knowledge alone is but a loop leading nowhere. To make it lead somewhere is the assignment given Cybernetics by the Cybernetician of the second order.

Notes


Computer graphic by Herbert Brün
I shall tell what I think while remembering Arnold Schoenberg, rather than tell what he thought while predicting us. Where he was right, we should be deeply ashamed, and where he was in error, I, at least, will not gloat. I can hear and understand the music he desired to compose, and while writing the following pages I thought, not only, but in particular, of his *Trio*.

**DRAWING**

Arnold Schoenberg, just as Karl Kraus and Charles Ives, knew and expressed how passionately dedicated he was to the society which, as he understood it, he could not stand, and which, as it understood him, could not stand him. His life and letters and prose and poetry and theory and composition demonstrate how he tried to distinguish himself in and from this society. Both. To draw both distinctions at once was his theme and subject matter, even though this meant court ing blatant contradiction while dealing, apparently, with mere conflicts.

To the understandable horror of all believers in consistency, coherence, communication, perfect models, and other such comfort providing, distinction removing paradigms, he successfully drew this distinction; is successfully drawing it.
DISTINCTIONS

Not many people know how passionately dedicated they are to the society which they cannot stand. Unaware of their living in contradiction they live in conflict.

Not many people know how passionately dedicated they are to the society which cannot stand them. Unaware of their living in conflict they live in contradiction.

Nobody can stand not being stood.

Nobody wishes to admit that.

Everybody, therefore, searching for an admissible degree of relative comfort resorts to proper English and falsifies the issue, thus: It is difficult to understand why one is not understood.

This proper English falsification underlies the prose and poetry written about Arnold Schoenberg by those of his friends and followers who, once his apologetic avowers, today, equally apologetically, disavow him. It is an underlie, because it is not at all difficult to understand why one is not understood, and that one is not stood because one is understood, and that one can not stand that which one understands precisely because one does.

Not many people know that a discovered contradiction needs to be protected against apologetic explanations reducing it to mere conflict.

Even fewer people know that conflicts can be resolved within the system in which they are said to be conflicts, and that contradictions can not.

To turn contradictions into conflicts is the concern of the reformer who criticizes the flaws in a desired system.

To turn conflicts into contradictions is the concern of the revolutionary who criticizes the flawlessness of an undesired system.
Anticommunication is an attempt, not a refusal.

The object is its name when called upon to manifest nothing but its mere existence.

Monologues are lonely dialogues.
Response prevents monologues.

Listeners are called upon to manifest more than their mere existence.
Composers are called upon to manifest more than their mere existence.
Nor is music in performance an object.

Anyone can call that, to which one refuses to respond, a monologue.
Anyone can respond to that which one refuses to call a monologue.

Nobody can call upon anything to manifest nothing but the caller’s mere existence.
Anyone can call upon anything to manifest nothing but its mere existence.

Just name it and call it its name.

It is just a matter of disposition.

So disposed, and disposed of, it will leave you alone.
Alone? You do not want to be left alone?

That, then, is a matter of composition.

Our subject is our name when called upon to manifest anything but our mere existence.
Anticommunication is the attempt at protecting a message of contemporary relevance and significance from the unconditional surrender to the addressed receiver.

Every desire can be transformed into a statement which wants to become “true”.

Whenever the maintenance of a system is rated more important than the maintenance of its elements, then the system will solve the problems which assail it and perpetuate the problems which maintain it.

Perpetuated problems generate the desire for a change of system. The opposition to change calls these problems unsolvable in order to reject the fulfillment of desires.

The Composer’s Music solves the problems which maintain it, and perpetuates the problems that assail it.

To learn how to compose is to learn how to construct systems wherein deliberately stipulated premises, statements of desires, become “true”.

Given a thesis or statement which intends to condemn present day reality and facts:

Could you argue for this thesis without using present day reality and facts?

If used as an argument, present day reality and facts will condemn any thesis which condemns them.

Furthermore, an argument which supports a thesis will in turn appear supported by the thesis.

Thus it may happen that you support that which you intend to condemn.

How could you, without using present day reality and facts as an argument, argue for this thesis without becoming a composer?

In the system which perpetuates it, an unsolvable problem is just that.
Communication uses the order and the law that is meant to be recognized by the receiver as the receiver’s own; anticommunication creates the order and the law that is meant to be discovered by the receiver for the first time.

The music you hear is, among other things, also the music composed by the composer. While you hear what you want to hear, you also hear what the composer wants you to hear, provided your listening neither starts too late nor stops too early. Otherwise you will hear what is, at least according to the composition, the wrong piece. If it matters to a composer that you listen to the right piece the composer will side with the composition and not permit the listeners to think that it does not matter.

The living organism needs food. When we want to eat, this want follows the instruction of a need. Nobody, however, needs to be either a composer or a listener unless that person wants to. Here the want generates the need and the need for music follows the instruction of a want. Want is the meaningful relation between needs and music. In one case want is a consequence, in the other the cause. To disregard and to belittle want in either case is to gloat over the needy, is to pride oneself on needing nothing.

Spontaneity, at its very best, generates intuitive responses to instructions received. Even the most brilliant improvisation only embellishes obedience to what is wanted from, not by, the musician.

Composers, on the other hand, articulate what they want. Not the mere fact that they want something, but that they articulate it as an instruction, gives music its function in society and, sometimes, renders music immune to the insidious flatteries of commercial absorption.

Nobody will be free from want by just hiding it.
Anticommunication offers more or less decorative garbage to the receiver who wants to understand, but it explodes or condenses into intended messages to the receiver who wants to understand.

Composers bring about that which without them cannot happen.

The present brings about that which can happen without composers.

The future leaves no traces.

The past is traces left.

The present is traced in passing and left.

The environment is traces left in passing and left.

The environment is past present.

It can happen without the composer.

The environment happens within but without the composer.

The composer happens within but without the environment.

Composers bring about that which cannot happen without them.

The composer composes the future so that the composition leave the traces of the future which the future won’t leave.

The future cannot happen.

Left to the future it would never happen, not with and not without composers.

Therefore composers bring about that which with and without them cannot happen.

Music for instants and, for instance, poetry.
Communication appeals to the individual owners of personal properties like taste, repertory, language, a past, privileges, beliefs, etc, and problems. Anticommutation is the problem inviting the attack of all who are intelligently tired of the unconditional surrender of long since conditioned messages to ultimately adjusted receivers.

Music wants listeners whether listeners want music or not:

if listeners want music, listeners will react to and interact with whatever listeners think listeners have heard;

if listeners do not want music, listeners cease being listeners and will react to and interact with whatever listeners neither think nor hear.

As soon as the reader has conveyed to each word in this statement the meaning which will allow the statement to appear as a “true” statement, the reader has understood the content of the statement.

Readers who, without thus understanding it, reject the statement as being ‘false’, fail, in fact, to reject the written statement. They reject only the readers’ reading.

Readers who understand the content of the statement by discovering the conditions under which it becomes ‘true’ and, then, reject the statement as being ‘false’, fail to reject only the written statement. They also reject the discovered conditions.

Listeners never accept or reject the music. Listeners sometimes accept only, and sometimes reject only, what they think they have heard and, if they know and understand what they have heard, also the composition by which and in which the music has been and, now, is being generated.

Where listeners consume music, both disappear. Where both appear, the listener is consumed by the music. Ready to further either and both, appearances and disappearances, almost all music almost always has been experimental. So have almost all listeners.
If the organization of a system in disorder is attempted with the aim to know all about the system and to render this information communicable, then it may be considered a “scientific” project. Here the system does not only offer the means, but also the contents of communication. It speaks for and about itself.

With a slyly embarrassed, but utterly unapologetic wink of complicity in the general direction of the sciences:

Uncertainty and ambivalence in a communication system betray, more than anything else, the presence of its only justification of existence, namely the presence of information. To lose this is the goal of the system under the inhuman and ruthless dictates of nature. We can but retard this process or gleefully promote it.

The gleeful promoter is the conservative who reads reality by the flickering light emanating from putrid communication systems that have grown sadly safe and certain, hiding nothing, not the slightest bit of information, and who hopes to bask delightedly and soon among the lifeless residuals of today’s unanswered questions.

It is the retarders, on the other hand, who regret that life abandons passing things and configurations, who eagerly learn and study nature’s laws so that they may protect all and themselves against these laws as long as possible, so that information may live a little longer before the communicative pit swallows it, before the digestive system of learned understanding will mutilate meaning for the production of meanings.

All adjectives and adverbs may be removed.

Not removable is the distinction between the conservative who conspires with nature, and the composer who resists its seduction to decay.
If the organization of a system in disorder is attempted with the aim of mobilizing the means for the communication of thoughts which transcend the definition of the system, then it may be considered a “creative” project. Here the system offers the means but not the contents of communication. It speaks for but not about itself.

Whenever I am wanted, I am defined. Whenever a connection I want wants establishing, I am wanted. Thence: rather “whither the statements?” than “whence?”

Not one of these statements is thought to be true. If these statements were thought to be true, the consequences of such thinking would be desirable. Thus these statements need to be thought of as becoming true. A program.
Composers wish to bring about that which without them and without human intent would not happen. In particular, they wish to construct systems, contents, stipulated universes, wherein selected objects and statements manifest not only more than their mere existence but have a function or value or sense or meaning which without the composers’ constructions they would not have.

Occasionally composers bring about that which without them and without human intent could not have happened.

It was certainly not Schoenberg’s wish to bring about that, which without “those who applauded his wish” and without “their intentions” would not happen. As soon as the applause had subsided, as soon as the difference between his intentions and “theirs” became clear, “their” voices rose protesting that not one of them would have committed Schoenberg’s error by fulfilling Schoenberg’s wish and his intentions as Schoenberg had done. This obvious truism has been used ever since as if it were some kind of contemporary criticism, but has never yet been recognized for the supreme expression of respect that it is, by confirming that indeed Schoenberg had brought about that which without him, and with them, and without his intentions, and with theirs, could not have happened.

Many successful works of art reflect present day reality and facts. Affirmative output of our society. They are successful in that they allow us to see our society, as it is embellished and affirmed by the artists and composers whom it favors.

Some successful works of art reflect the problems which maintain the system wherein they are conflicts. Indignantly contrite output of our society. They are successful in that they allow us to see our society, as it is heavily armed against change, under a thin coat of free thought accorded the artists and composers whom it favors.
A few successful works of art reflect the problems which assail the system wherein they are contradictions. Affront as input to our society. They are successful in that they allow us to see our society as if it were also another, different, society and, rather than its future, that of the artists and composers who favor it.

Even fewer successful works of art reflect the desire for, and the rejection of, our society as tomorrow’s reality and facts. Utopia as input to our society. They are successful in that they allow us to see our society as it prevents itself from becoming what it wants to be, to see another society which helps itself to what it wants to be, and its future rather than that of the artists and composers who favor it.

No work of art necessarily fits only one of these descriptions. Every work of art, however, tells composers and their audiences, whether they admit it or not, to which combination of descriptions it best fits.

No description of a work of art necessarily heeds all of the composer’s intentions. Most of the composer’s intentions, however, may be quite irrelevant for any description of the composition.

No composer necessarily plans to have the composition fit any particular combination of descriptions. Every composer does, however, have a share in the responsibility for that combination of descriptions which fits the composition.
Thus, Arnold Schoenberg is responsible for what he did and said and claimed in his own name, as well as for what was done, said, claimed in his name by others. This does not, however, allow us to confuse him with others. If the claims that were made in his name are now being withdrawn by those who either initially had, or even had not, made them, then I wish to redraw the distinction between the statement, musical or otherwise, made by a composer, and all statements made about this statement by his audience. And if the others remind me of the evidence which shows that the accurate meaning of every statement is powerless against its once enthusiastic, now disavowing, and in many cases inaccurate, interpretations, then I shall change the evidence rather than live in that mental universe in which others, according to their evidence, are right.

I can not and will not remember Arnold Schoenberg in anyone’s name but mine.
This is the first memorial lecture I have given for a man I knew personally—a man whom I also loved. He was a tenacious cybernetician; the pioneer of that work here in Brighton, but one whose name at least was known throughout the cybernetic world. More than this, and more importantly than this, he had a dedication to humanity. It may not be well known, but I knew, that he was as interested in the cybernetics of society as he was in the more recondite mathematics of the science. And I also know very well that he would have been captivated by the unfinished story I am telling here formally for the first time. If I could have had his advice while the project was unfolding, it might have been a better story. But I still hope that it is worthy of his memory.

In November 1970, Dr. Salvador Allende became President of the Republic of Chile. In November 1971, after some letters had passed, a meeting held in London, and some homework done, I arrived in Santiago. There I first met the prepared group of a dozen men who formed the nucleus of a team which is now much larger, and with whom I am still working for. I have been commuting the 8000 miles between London and Santiago ever since. The charge was daunting indeed: *how should cybernetics be used in the exercise of national government?* You will note that the question whether cybernetics had any relevance to the problems of society and of government had already been answered affirmatively.

What was and is the situation? The answer, as I have intimately known it for these last eighteen months, is immensely complicated. Let me paint my own crude picture for you, with a rapid brush. First, more than half the total population lives an urban life in the small central region of this long, thin country—a region that perfectly balances the arid North and the wet South in a superb climate. Here the people are highly literate, and constitutionally minded; their men are frank and friendly, their women gorgeous and gay. There is as great a spirit of freedom in the air as I have sensed anywhere in the world—and decreasingly sense in so much of it today. Yet, as you must surely know, Chile is in the middle of a Marxist revolution that has so far been constitutional, so far legal, so far bloodless.

On the land, the previous government had begun a process of agrarian reform, and that policy had general agreement. Landowners would no longer control estates larger than eighty hectares—say about 200 acres. The residual land was split up, and handed to worker’s cooperatives, who have the support of government agencies. In the six years of that previous government, about 20% of the programme was implemented. But the people were impatient, especially in the South, and a deeply embedded bureaucracy slowly moves. New forms of expression were given to agrarian reform; and the programme was completed, not always in good order, in the first two years of the government of Popular Unity. This rate of change has surely contributed to the current food shortage; not so much, perhaps, because the new arrangements are inefficient in themselves, but because the remaining landowners—disrupted by these events and fearful of further change—are eating their seed corn rather than investing it in production.

In industry too, the new government’s policies of nationalization and worker participation have been implemented so rapidly that the control of that process was—and remains—extremely difficult. Foreign managers of expropriated firms have mostly left the country, and the problem of finding men to take temporary charge (these are the *interventors*) was—and remains—severe. It has been exacerbated by a brain drain of native Chileans: too...
many qualified professionals have left the country. That they should do so was surely implicit in their upbringing and their expectations; but their problem was much aggravated by the psychological panic induced by Opposition campaigns to spread rumours of terrors to come. As to industrial investment, we should note that all the banks were nationalized, and those banks hold the internal assets of the landed classes.

Politically, the government’s problems have been huge, all along. In the presidential election that put Dr. Allende in power, he obtained only 36% of the vote. The coalition he leads itself contains factions which struggle for influence between themselves. Throughout he has faced a hostile Congress and Senate, capable of blocking any government initiative by the Oppositions’ majority of 60% to 40%. On the other hand, the government is empowered to block the majority vote of Congress—so long as its own support is at least a third. Hence the political stalemate; hence the tension of the marginal vote; hence the importance of the Congressional Election next month.

All of this is easily recognized, especially in cybernetic terms, as a grossly unstable situation. And its explosive economic tendencies were perfectly predictable when I first became involved. There had been a very large and very sudden increase in the purchasing power of the rank and file. Wages rose fast, for the land-workers in particular—who were put on the same footing as the blue collar workers. Social security benefits were much increased for everyone with young, old or incapacitated dependents. Then clearly there would be a run on stocks; clearly there would be a run on reserves. Indeed this was well understood: on my very first visit a Minister took several hours to explain the risks being run, and the political determination with which those risks were accepted as the price of rapid social progress. The question was whether the government could get a sufficient grip on the situation in time—before this inflationary time-bomb blew up in its face.

In the event it did not, and the state of the country is very precarious. It is superficial to think of this in terms of food shortages and 'housewives marches', tiresome as the food problem certainly is for the middle class. The more important fact is that Chile suffers from the effects of an economic blockade. There has been a blockade of spare parts, which has made it even harder to keep agriculture going, industry productive, transportation moving. There has been a blockade on exports, by which I refer especially to copper—which used to earn more than eighty percent of the country’s foreign exchange. The attempt is being made to close world markets to Chilean copper, and the world price has fallen. Above all, there has been a blockade on foreign credit. And since Chile’s natural resources will one day make it a rich country, when those resources are properly deployed, it follows that the stranglehold on credit is not a solely economic matter.

It appears to me that the government did not anticipate the full vindictiveness with which the rich world would react to its actions, which I emphasize have—so far—been perfectly legal. At any rate, a true resolution of the very potent conflicts in Chilean society is not discernible within the mounting instability, and may be long postponed. But I consider that this is largely a phenomenon of the cybernetics of international power: you could say that the Chilean people have not been given a chance. They are being systematically isolated behind those beautiful Andes mountains, and are in a state of siege. The mass media have not helped much—especially inside the country itself, where freedom of speech has been respected in very testing circumstances. Because of its ownership, this freedom is largely employed to oppose the government. Because of its prestige, the anti-government press is widely copied—embroidered even—across the world.

It says a lot for the good intentions of the government that the work I shall describe has been going on in the midst of such obvious turmoil. It wanted scientific tools to help tackle the country’s problems, and it knew that their provision would take time—perhaps too long. So it may be proved. The government has so far had to work with the tools that other governments have used without success. It also wanted to work out the relationship between science and the people, and that too ought to interest us all. We have moved into an epoch in which the misuse of science has created a society that is already close to a technocracy. The very language—the dehumanized jargon—in which powerful countries talk about the wars they wage, or powerful companies talk about the people they exploit, frankly makes me vomit.

I am a scientist; but to be a technocrat would put me out of business as a man. Yet there I was, eighteen months ago, intent on creating a scientific way of governing. And here I am today, proud of the tools we have made. Why? Because I believe that cybernetics can do the job better than bureaucracy—and more humanely too. We must learn how to expunge technocracy, without rejecting science—because the proper use of science is really the world’s brightest hope for stable government. Some people in Chile share that view; and they reject technocracy as strongly as do I. All of us have already been misrepresented in that respect, just as the scientific work we have done has already been misrepresented as analogous to other management control systems that have failed. Both comments miss out the cybernetics, to discuss which we are here—and a subject which, for
government in general, is not at all understood.

Cybernetics And Freedom

What is cybernetics, that a government should not understand it? It is, as Wiener\(^1\) originally called it twenty-five years ago, 'the science of communication and control in the animal and the machine'. He was pointing, in that second phrase, to laws of complex systems that are invariant to transformations of their fabric. It does not matter whether the system be realized in the flesh or in the metal.

What is cybernetics, that government should need it? It is, as I should prefer to define it today, 'the science of effective organization'. In this definition I am pointing to laws of complex systems that are invariant not only to transformations of their fabric, but also of their content. It does not matter whether the system's content is neurophysiological, automotive, social or economic.

This is not to argue that all complex systems are really the same, nor yet that they are all in some way 'analogous'. It is to argue that there are fundamental rules which, disobeyed, lead to instability, or to explosion, or to a failure to learn, adapt and evolve, in any complex system. And those pathological states do indeed belong to all complex systems—whatever their fabric, whatever their content—not by analogy, but as a matter of fact.

With cybernetics, we seek to lift the problems of organizational structure out of the ruck of prejudice—by studying them scientifically. People wonder whether to centralize or to decentralize the economy—they are answered by dogmas. People ask whether planning is inimical to freedom—they are answered with doctrines. People demand an end to bureaucracy and muddle—they are answered with dogmas. People ask whether planning is inimical to freedom—they are answered with doctrines.

Let me briefly explain. Homeostasis is the tendency of a complex system to run towards an equilibrial state. This happens because the many parts of the complex system absorb each other's capacity to disrupt the whole. Now the ultimately stable state to which a viable system may run (that state where its entropy is unity) is finally rigid—and we call that death. If the system is to remain viable, if it is not to die, then we need the extra concept of an equilibrium that is not fixed, but on the move. What causes the incipiently stable point to move is the total system's response to environmental change; and this kind of adjustment we call adaptation. The third notion that we need to understand homeostasis is the idea of a physiological limit. It is necessary for a viable system to keep moving its stable point, but it cannot afford to move it so far or so fast that the system itself is blown apart. It must keep its degree and its rate of change within a tolerance fixed by its own physiology. Revolutions, violent or not, do blow societies apart—because they deliberately take the inherited system outside its physiological limits. Then the system has to be redefined, and the new definition must again adhere to the cybernetic criteria of viability. Then it is useless for whoever has lost his privileges to complain about his bad luck, so long as he uses a language appropriate to the system that has been replaced. He must talk the new language or get out. This fact is the fact that is polarizing Chilean society now.

By the same token, a society that does not have a revolution, violent or not, inevitably goes on talking the inherited system's language, even though the rate of change has made it irrelevant to the problems which that society faces. Perhaps this fact is the fact that begins to polarize British society now.

At any rate, cybernetic analysis—I have tried to give you merely its flavour—enables us to study the problems of a particular society in terms of its viability. In general, I have only this to say about societal homeostasis in the nineteen-seventies:

- A homeostat works (and we know all the cybernetic rules) by moving its stable point in a very

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Fanfare for Effective Freedom

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complicated response to the shocks it receives to its total system.

- Any homeostat takes a finite time to re-establish its new stable point. This is called the relaxation time of the system.
- Today it is typical of social institutions that the mean interval between shocks (thanks to the rate of change) is shorter than the relaxation time. That is because the institutions were originally designed to accept a much longer interval between shocks.
- From this it follows that societal institutions will either go into a state of oscillation, or plunge into that terminal equilibrium called death.

The cybernetician will expect the politician to adopt one of two basic postures in the face of these systemic troubles.

The first is to ignore the cybernetic facts, and to pretend that the oscillations are due to some kind of wickedness which can be stamped out. The second is to undertake some kind of revolution, violent or not, to redesign the faulty instruments of government. I do not have to relate the polarization throughout the entire world to which this cybernetic expectation is the key. But it seems very clear to me, as a matter of management science, that if in these typical circumstances you do not like violence, then you should quickly embark on a pacific revolution in government. If you do not, then violence you will certainly get.

Outstandingly it was Chile that embarked on this recommended course of pacific revolution. But, as I have already argued, the process has strained Chile’s internal homeostatic faculties to the breaking point. Let me restate the reasons I gave before in cybernetic terms. Firstly it is because its minority government has been frustrated in fully restructuring the system according to the criteria of viability. Secondly it is because in the wider world system Chile’s experiment was observed as an oscillation to be stamped out. How this will end I do not know. Meanwhile, however, we had set out to redefine the internal homeostasis.

I went to Chile armed with a model of any viable system, which I very well understood. It had taken twenty years to develop, in modelling, testing, and applying to all manner of organizations. The book expounding it was already in the press when this story started.

One of the key ideas the general theory embodies is the principle of recursion. This says that all viable systems contain viable systems, and are contained within viable systems. Then if we have a model of any viable system, it must be recursive. That is to say, at whatever level of aggregation we start, then the whole model is rewritten in each element of the original model, and so on indefinitely.

If we model the state, then one element is the economic system; if we model the economic system, then one element is an industrial sector; if we model that industrial sector, then one element is a firm. The model itself is invariant. See what happens if we go on with this recursion. An element of the firm is a plant; an element of the plant is a particular shop; an element of the shop is a section; an element of the section is a man. And the man is assuredly a viable system—as a matter of fact, the model started from the cybernetic study of man’s effective neurophysiological organization in the first place.

A second key idea was that by using the viability criterion, all alone—for the reasons I gave earlier, one might succeed in identifying regions of policy in the total organizational space that represent homeostatically stable points for long term survival. I am pointing now to a possibility that it is open to mankind at last to compute a set of organizational structures that would suit the needs of actual men—as being at once themselves independent viable systems with a right of individual choice, and also members of a coherent society which in turn has a right of collective choice. Now one of the main issues identified was the issue of autonomy, or participation (these are catch words), or perhaps I mean just liberty, for whatever element within whatever viable system. Then this means that there ought to be a computable function setting the degree of centralization consistent with effectiveness and with freedom at every level of recursion. This I now believe. It is a bold claim. Let me try to give it verisimilitude.

Government and management control systems range over a fairly wide spectrum on the autocratic-permissive scale, and still remain viable. What is happening in cybernetic terms is that the homeostat connecting ‘the boss’ to the people’s homeostat is either in high or low gear—while still operating within physiological limits. In an autocratic system, the people’s homeostat is robed of flexibility; in a permissive system, it is deprived of guidance and help. As long as oppression and freedom are seen solely as normative values, the outcome is determined by self-interest. Then we get polarization, and people will fight to the death for a prospect which is in either case ultimately not viable. But if we raise our eyes to the higher level of the total system in designing government controls, and use the viability criterion to determine the balance point, liberty must be a computable function of effectiveness for any total system whose objectives are known.

For example, when winning a war is the accepted

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objective—either for a nation or a guerrilla force—personal freedoms are acceptably sacrificed. But when a society fails to define its objectives, its consequent self-indulgence in freedom is met by a running tide of authoritarianism. And this is the explosive situation that so much of the world faces today, whatever its political colour, and at whatever level of recursion. Using the analysis I made a little earlier, the threat is that our world may not be viable much longer. Hence my plea for a cybernetic understanding of what is going on. I do not believe it has anything to do with genuine ethics: it is all about power.

Above all, the polarity between centralization and decentralization—one masquerading as oppression and the other as freedom—is a myth. Even if the homeostatic balance point turns out not to be always computable, it surely exists. The poles are two absurdities for any viable system, as our own bodies will tell us. And yet government and business continue the great debate, to the advantage only of those politicians and consultants who find the system in one state and promptly recommend a switch to the other.

These notions are central to the work I shall next describe. In Chile, I know that I am making the maximum effort towards the devolution of power. The government made their revolution about it; I find it good cybernetics. But the tools of science are not anywhere regarded as the people’s tools; and people everywhere become alienated from that very science which is their own. Hence we are studying all these matters with the workers. Hence the systems I have to tell you about so far are designed for workers as well as ministers to use. Hence we are working on feedback systems to link the people to their government.

The enemy in all this is the image of exploitation that high science and the electronic computer by now represent. We are fighting that enemy and its ally technocracy. And so it must be only in Chile that you will find a famous folklore singer declaiming: ‘Seize the benefits that science gives the people in their quest and ‘Let us heap all science together, before we reach the end of our tether’.

I am proud to have worked with Angel Parra on that song, which is called Litany for a Computer and a Baby About to be Born. Contrast that title with the headline song, which is called ‘tether’.

Real Time Control

All that I have so far said is a very necessary preliminary to a right understanding of the economic control system I shall describe, which in any other terms would be a nightmare. But as society becomes differently understood—cybernetically restructured, politically redefined, differently lived by our children—yesterday’s nightmares may become tomorrow’s dreams. That is true for the whole of technological development. Without the restructuring and the redefinition the nightmare remains, as we who live in the polluted wake of the industrial revolution ought very well to know.

The thinking begins with one very clear idea. If things are changing very fast, then government needs instantaneous information. If its information is out of date, then its decisions are worse than irrelevant. Please consider this point very closely.

In 1956, Mr. Harold MacMillan (who was at the time Chancellor of the Exchequer) complained that controlling the economy was like trying to catch a train using last year’s Bradshaw (time-table). It was true: the vital statistics of the nation were twelve months out of date. Sixteen years later, Mr. Harold Wilson (at the time Immediate Past Premier and the newly elected President of the Royal Statistical Society) has recently explained that things are better, and maybe many key national statistics are now only six or eight months out of date. And of course lags of either magnitude are commonplace in government throughout the world. It will not do. This is not only because decisions taken cannot have the benefit of the latest information; there is a far more ominous reason given in cybernetics.

It is a familiar notion that economic movements operate in cycles. Then out-of-date information is not merely ‘late’; it is precisely incorrect—because it represents some cyclical trend that has since been superseded, but this is not recognized. If economic cycles were regular in periodicity and amplitude there would be no problem: the delay could easily be corrected. The decision-taker would discount the time-lag, and extrapolate. Indeed he tries to do this. Please look at Figure 1. By the time we discover either of the crises depicted, those crises are actually over. But we take action without knowing that, and therefore decide on exactly the wrong action each time. Now doing this actually causes instability.

To put the point in proper scientific terms: an unstable oscillation will occur at precisely the frequency for which the time-lags cause a phase shift of 180°. The negative feedback signal reinforces—instead of corrects—the original error.

It happens that the time it takes to implement a new government economic policy is of similar order to the statistical delay in acquiring facts, and so it is very pos-
sible to have the control system completely out of phase.

Lest this explanation should sound absurdly naive, let me add two reasons why the difficulty is not as perfectly obvious as I have made it appear. In the first place, neither of the lines I have drawn in Figure 1 is clear: both are fuzzy. That is, there is a tremendous amount of ‘noise’ present in the system—much of it deliberately injected by economic participants who stand to gain by causing this confusion. The second point is more difficult. The controller of an economic system is not a straightforward servomechanism with a known transfer function. It is itself a complex system, with its own time-lags, which are separate from the time-lags in the economy. It too may begin to oscillate; and in my experience, it does. Then there is a distinct likelihood that there will be a resonance effect between the two loops. If so, the oscillation in the controller would actually force a new oscillation onto the already oscillating system.

No wonder, then, that no-one can disentangle all these effects; and no wonder that we do not perceive anything as simple as Figure 1 proposes. But in the absence of a complete explanation, there is something that we can do. Instead of solving the problem, we can dissolve it. Let us et rid of all the time-lags. Indeed, we ought to break with the very idea of arbitrarily quantized managerial time. Just as lags in reporting the past produce a bogus periodicity, so quite clearly do the lags fed forward in planning the future. A year’s forward projection, or five-year plan, predetermine the cycle of expenditure and investment, and betray the capability of a viable system to adapt to environmental change. We cannot afford to await ‘the next quinquennial review’ when someone is standing on our foot.

What is the alternative to these inherited systems of lagged, quantized reporting on what has happened and lagged, quantized response to projected change? The answer from the mid sixties onward has been and remains real-time control. We have the technology to do it. This concept was fundamental to the plan we drew up for Chile in late 1971. We would abandon the hare-

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**Figure 1. Underlying problem in controlling an economic variable, obscured by mechanisms (see text).**
Fourth Objection: 'Intelligent' computer programmes to do all this are still in the science-fiction stage.

Answer: This is woolly thinking. People do not really think out what is involved, because they conceive to the computer as a fast adding machine processing a databank—instead of seeing in the computer, quite correctly, the logical engine that Leibniz first conceived. The computer can do anything that we can precisely specify; and that includes testing hypotheses by calculating probabilities—as again you shall see.

Fifth Objection: Even so, such programmes would take hundreds of man-years to write and be debugged.

Answer: I am sorry, but they did not. That is because the people involved in both London and Santiago were first-rate programmers who understood what they were doing. Let me be brutal about this: how many managers are aware of the research done into the relative effectiveness of programmers? They should be. The best are anything from ten to twenty times as good as the worst; and when it comes to cybernetic programming, only the very best can even understand what is going on.

Sixth Objection: A real-time system with on-line inputs? It is Big Brother; it is 1984 already.

Answer: Stop panicking, and work out the notion of autonomy. I have still more to say about this later. All technology can be, and usually is, abused. When people turn their backs on the problem, crying touch-me-not, the abuse is the worse.

Seventh Objection: Only the United States has the money and the knowledge to do this kind of thing: let them get on with it.

Answer: 'I find that slightly boring'.

Note: This objection was voiced to me in one of the highest level scientific committees in this land. The answer came from the Chairman, and I was glad not to be in his withering line of fire at the time. But he did not prevail, and neither did I.

In Chile, it took just four months to link up the key industrial centres to computers in the capital city—using a mixture of Telex lines and microwave connections (Figure 2). Purists may well point out that this does not constitute a real-time teleprocessing network, and they will be right. However, we have used the real-time philosophy, and have simulated an on-line system. The programs are written for that; and if someone will kindly donate the teleprocessing equipment, it will soon be in action. (I have mentioned the problem of foreign exchange already.) Meanwhile, we have to use too many human interfaces. But I am not going to apologize much about that. The fact is that we can cope with daily input, and that is—relatively—very close to real-time: in normal government terms, you cannot tell the difference.

This communications network was in itself a fairly simple technological manoeuvre; but even so it constitutes a big advance for government cybernetics. During the October crisis of 1972, some of the most senior people in Chilean government came fully to understand in practice what Wiener had expounded theoretically long ago: communication is indeed control.

Well: to know today what was the state of the industrial economy yesterday is a considerable advance on knowing what it was six months or a year ago. But we were trying to do more than merely get up to date. Frankly, there is not much point in knowing what happened even yesterday—because even yesterday is the purest history. Nothing can be done about it any longer. But if we can get hold of a close idea of what is going to happen next week, then we have at least a chance of doing something about that. And certainly knowing what has been happening over the last few days is the best basis for estimating what is likely to happen over the next few days...

The question is: how? One may call for data, but he has to meet the problems I listed just now (the 'fatal' British Objections—) if he is to make effective use of them. One may know all about yesterday; but he has to be fairly ingenious to say the right things about next week. The initial four-month plan of action, which had included setting up the communications network, tackled these problems too; and it successfully defeated them.
Interdisciplinary operational research teams set out to make (crude, but effective) models of all the major enterprises in the social economy. These were not to be the vast, static, historical, and essentially out of date and non-stochastic input-output matrices beloved of so many state planners. We wanted to get at the dynamic systems which made the enterprises tick; and we wanted them in a form that managers and ministers could immediately grasp. Therefore we used a visible and visualizable type of model, called a 'quantified flow-chart'. Start with production (a Marxist government has no illusions about the source of the creation of wealth). If we list the production operations of the firm, and their productive capability, we can make a map of production flow—in which the flow lines are proportional to the relative amounts of flow, using some convenient measure, and the operations themselves are boxes at the confluences—also shown in relative sizes according to their productive capability. Here is an example (Figure 3).

Now of course if that kind of presentation can be made for the flow of production it can be made for any other kind of dynamic system in which management may be interested: cash flow, for example, or the deployment and movement of people and of goods. And although we started out on this task under the aegis of Operational Research, I am hopeful that as people become accustomed to the idea we can use a better approach. Do we really need objective, scientific enquiry to understand what the structure of the system is, and how it should best be quantified? Actually not. The people who best understand what these systems are really like are the people who operate them. You do not need a string of degrees to understand how to make a quantified flow chart of the activity that surrounds your daily life. So here I hope will be the start of 'participation' in the future, and OR expertise will be used merely in teaching and in guidance.

With this simple device we start on the road leading to the answers to those objections about overload. In cybernetics we have an actual measure of complexity, which we call variety. By devising systems in which homeostats are set up between management and whatever is managed, we embark on the process that I have labelled 'variety engineering'.

The quantified flow chart is in itself a variety-attenuating filter. In the first place, it can select its own degree of optical resolution. For example, it can show a box called simply steel production: or it can show three boxes identifying kinds of steel production—by open-hearth, electric arc, and converter, say; or it can show every individual furnace. By the same token, it can lump together all the materials that go into a steel-making furnace charge, or it can distinguish between them. This variety engineering concerns the account of the operation that has meaning for a particular management group, and the degree of optical resolution chosen depends on the level of recursion at which this operation is being considered. In the second place, iconic representation is also a variety attenuator in the suppression of words and numerical data: it is a product of gestalt psychology, in which pattern is relied upon to convey information.

The next variety attenuator involved in this representation is the concept of capability. The real-time variation in actual flows and outputs is killed in the iconic quantified flow chart, and referred instead to a relatively static idea of 'what can be done'. You might think that this would be difficult to define, but in practice it is fairly easy. Capability is a systems concept: what outputs is the total system capable of generating in each part, given the limitations imposed on any part of the system by other parts? Then 'capability' is not to be confused with 'capacity', which is not a systems concept—because it alleges that some part of the system can in theory do something that may be rendered impossible by other parts. This variety attenuator is valuable because it reflects reality for the whole system concerned, and that has meaning for the recipient of the iconic representation.

However, we could—given a breakthrough of some kind—do better than the results of which we are currently capable. After all: if capacity exceeds capability in some parts of the system, there must be other parts of the system (called bottlenecks) that are actively restricting capability. These bottlenecks may have to do with low local capacities, or they may have to do with technological constraints. For example: a mill's engine might be perfectly adequate to drive its rolls at twice their current speed—if only we had a better lubricant. Then these considerations define potentiality, which is something better
Potentiality is the performance of which the system would be capable, ‘if only...’ That does not mean that we look for pie in the sky: it means that we look for investment—in new equipment, to cure the bottlenecks, or in research to cure technological shortcomings. It is not very difficult, keeping one’s feet firmly on the ground, to define a system’s potentiality.

But if potentiality is better than capability, there is something worse—and that is actuality. The performance of systems cannot rise to their potentiality without investment of some kind; it cannot even rise to their capability unless activity is perfectly well organized. It never is. In consequence, what actually happens falls short of the capability expressed before. Moreover, actuality expresses that very reality of which I spoke earlier—the day-to-day vicissitudes of life. It was this continuous variation which drove our thinking down the road to real-time control. Somehow we have ended up with three versions of systemic truth: actuality, continuously fluctuating; capability, a much steadier variable; potentiality, which is absolute until the system itself is structurally changed. And it is capability which the iconic representations represent. To make them show potentiality would, for the moment, be unrealistic; to make them show actuality would, at all times, result in their dancing in perpetual fandango before our eyes. So this capability attenuator is a powerful but sensible reducer of operational variety.

So be it, in so far as iconic flow charts are concerned. But what about continuous reporting, and the problems of real-time control? Whatever information we collect, it is due to be hurled round dozens of homeostatic loops—those loops that make up the total systems design. That information has very high variety, and the analysis we have just made multiplies it by a factor of three—or so it seems, if we want a measure not only of actuality, but of capability and potentiality as well... But rescue is in sight. Both capability and potentiality are relatively static measures. If we take their ratio, the resulting index will also be relatively static. Moreover, such a ratio will be a massive variety attenuator—because it will be a pure number, varying between nought and one. So instead of trying to consider, all-in-one-breath, that we have a capability of 800,000 tons and a potentiality of 1,000,000 tons, we shall think of a ratio of 0.8; while the capability to use 110 men contrasted with a potentiality to use only 22 yields a ratio of 0.2; and the capability cost of an item of product at 120 escudos compared with a potential cost of 60 escudos indicates a ratio of 0.5. Well what is potential in current capability is a latent resource; and it could be freed by investment in some form. So I call the ratio between capability and potentiality the Latency Index. Looking at a new iconic diagram (Figure 4), we can see how potent a variety attenuator has been devised.

![Figure 4. Iconic representation of relative Latencies (see text).](image)

There is no need any longer to try and assimilate the numbers that characterize the units measured. That is the strength of an index—it is a pure number, varying over a fixed range. Hundreds of thousands of tons; hundreds and tens of men; units of money; there is no need to wrestle with them. Nor, if we stick to our ideas about iconic diagrams is there any real need to use digits at all. We can distinguish very clearly, using our eyes, between the levels represented in the iconic diagram. It might satisfy an accountant, but it would make no difference to a manager, to declare that a Latency Index had changed from 0.71 to 0.73. Who cares? The computers behind the manager’s eyes will undertake whatever process of discrimination has meaning for his judgmental brain. Then this was the first though massive piece of variety engineering we set out to achieve in Chile, on those initial (crude, but effective) models, contrived at an appropriate level of optical resolution, of all the firms. As I said, the Latency Index is all about investment, and we shall certainly return to it later.

Meanwhile we must consider actuality, the real-time variable in the entire system. For if a Latency difference between 0.71 and 0.73 means nothing, because both potentiality and capability are fairly static, such a difference in a fast-moving index could mean something very important. It might be part of a trend. I have already explained the arrangements by which the data representing actuality come into Santiago every day. They are used to form a second ratio, comparing actuality (the newly arrived figure) with capability (selected from the computer store). This is the Productivity Index. It is in a continual state of oscillation, which destroys the variety that is of no concern. In the next diagram (Figure 5), we can see how the three concepts of actuality, capability and potentiality are combined as two ratios to form the Latency and Productivity Indices, and how these in turn create an overall Performance Index. The reason for this iconic representation, in place of the familiar mathematical notation, lies in the fact that which part of the ratio is the numerator and which the denominator depends on what
is being measured. For instance, capability is always better than actuality, but in numerical terms it may be more (e.g. output) or less (e.g. manhours per unit). Naturally enough, the smaller number in the ratio is the numerator, since the index will be less than 1.0.

The indices procure an enormous variety reduction; even so, we still have problems in conforming to Ashby's Law of Requisite Variety when it comes to managing the economy. The company production models for instance generate on average about ten triple-indices per plant; these always include raw material and finished stocks, the output of key production processes, and labour absenteeism. This degree of resolution is minimal, and managements have free rein to install whatever extra indicators they like. This honours the argument for autonomy, and it makes an insignificant difference to the work load of the computers, because all the numbers inside the computational system are diurnal time series of indices varying between nought and one. The programmes are therefore infinitely extensible in application. Even so, with the system in full operation, many thousands of actuality inputs will arrive daily, generating three times as many indices; and the total number could easily rise by two orders of magnitude as the autonomy criterion is understood by managements, the operational research goes deeper, and worker participation becomes real. And so we reach the more subtle notions of variety engineering.

If a particular indicator, say the rate of crushing limestone in a cement factory in Northern Chile, is generating a new Productivity Index every day, what ought to be done with it? Should be lay the new figure, each day, on the desk of the Minister of Economics? Surely not. This variety must also be filtered. There are two statistical notions involved, and the first is very simple. A population of (say) a hundred such figures generates a probability distribution. This may turn out to be oddly-shaped, rather than straightforwardly Gaussian; and especially it may be skewed to the right (since the index has a finite limit of one). It is a simple matter, however, to correct for this statistical aberration, by using a trigonometrical transformation. Then we may establish the mean and variance of this population of indices.

These two statistics, all alone, characterize the stochastic behaviour of each index over time. Then if we take a running sample of the indexical figures as they are computed, it is easy to establish whether a significant change in the mean or variance of the statistical population has occurred. The statistical population characterizing each indicator is known as the taxonomic index, because it classifies every measured activity within every operation according to its mean productivity. There is a standard computer programme that looks for changes in the taxonomic index; if such a change is found, that is notified to the management concerned, and the iconic graph is changed. Further, the history of the index over time is updated (Figure 6). These are relatively rare events, but the procedure mentioned absorbs the variety engendered perfectly well.

**Breaking the Time Barrier: Cyberstride**

The more difficult problem, and the more sophisticated statistical notion, concerns the possible trend that each new daily figure may betray. If the economy is to be under realtime control, the government cannot wait to know that a significant change has been registered for a particular taxonomic index—although this is already much to be preferred to the orthodox system of routinely quantizing statistics, where the recognition of significant change is left first to the alertness and next to the judgment of whoever is supposed to be watching the results. No, it is much more than this: we approach the problem of breaking the time barrier. Can we tell from yesterday’s figure, and the short-term run in which it participates, what will happen (unless we intervene) tomorrow and next week? It is the problem of short-term forecasting, with which a great deal of progress has been made in recent years.

Allow me once more to return to the facts of the Chilean work. Before the end of 1971 I had designed a specification for the computer programme to deal with
taxonomic indices having daily actuality inputs, and it was in the hands of a team of operational research consultants in London, who had been commissioned to write the programs. We were discussing the short-term forecasting problem, when the London team discovered a brand new paper in the *Operational Research Quarterly*—hot off the press. The authors were Harrison and Stevens and they had clearly made a major advance in the field of short-term forecasting4. We had been talking in terms of Cusum (cumulative sum) techniques to this point, as representing the best available practice. Cusum itself was associated with the first author, who had been pressing its virtues for many years, so we were naturally impressed that this novel development came from him. The obvious power of the method (always supposing it worked), and the elegance of the mathematical demonstration behind the approach, convinced us to take the plunge. It was a noteworthy decision. The London team wrote a temporary suite of programs which included the Harrison-Stevens approach and incredibly had it working in Santiago by the March 1972 deadline of the first phase of the operation mentioned already. Meanwhile they began work on the permanent version, creating a specification that was handed over to the Chilean scientists. In the meantime, as the system was growing, experience was gained in the actual use of these very complicated program suites, and they grew in sophistication all the time. But these new developments, vitally important though they are, must await presentation by the men who made them possible in more technical papers than this.

This suite of computer programs, called CYBER-STRIDE, is the essential feature of the filtration system that achieves the variety attenuation demanded, and which breaks the time barrier of which I was speaking. It takes as input the actuality figures every day; it makes various checks on their integrity; it computes the triple-indices; it makes statistical judgments about the taxonomic indices as I have already described. After that, using the Harrison-Stevens techniques, it really gets clever. When a new value for any index is computed, Cyberstridge looks at it in the context of the recent history of that index (Figure 7). The new point might stand for any one of the four outcomes depicted. It stands for no change, or for a transient (neither of which matters to the manager); or it stands for a change of slope, or for a step function, (both of which possibilities matter very much). Using Bayesian statistical theory, the program calculates the posterior probability of each of these four events—for every index, every day. The programme is incredibly sensitive to these changes, recognizing them long before apparently unusual index value is thrown up. Moreover, instead of producing merely single-figure forecasts (and who can foretell the future with that kind of precision?) it produces a joint parameter distribution that expresses the inherent uncertainty of all forecasting.

So this is what I meant in speaking of computers as quasi-intelligent machines. Cyberstridge throws away the huge component of variety that has no meaning, because it represents a chance fluctuation. It is at once alert to significant changes, focussing on them an analytical eye, and capable of estimating on the strength of that analysis what will happen next. The only problem we had with Cyberstridge, and it was very severe, was its calibration in terms of these posterior probabilities: how sensitive should it be made? Obviously, it could discard too much, or become overexcited about too little. The ‘tuning’ subroutine that fixes these limits of excitation, so analogous to the so-called physiological limits of variation in any homeostat, was the big achievement of the Chilean scientists working on Cyberstridge.

The variety engineering is complete—for the lowest level of recursion, the enterprise itself. If it would have

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been ludicrous to confront the Minister of Economics with the whole variety of fluctuating indices, it would still be absurd to inform him of even highly significant movements in the limestone-crushing activity of a cement plant in Northern Chile. Absurd, yes; but also ominous. I am sure you recall the argument about autonomy and overcentralization. What happens in Chile is this. The results of applying Cyberstride daily to the new inputs which quantify the iconic flowcharts are fed straight back to the managements concerned. It is their responsibility to do something about the warnings that are generated in this way by quasi-intelligent machines. No other human being than the responsible manager receives any information about this extremely elaborate piece of computation, and I attach very weighty importance to this fact.

Then, you will ask, what about the other levels of recursion? The manager of the enterprise is very well served by all of this, especially so, since he can pump any indexical series he cares to contemplate into the routine and receive the alerting advice, whenever it is available; meanwhile he may feel perfectly confident that an absence of alerting advice means that whatever operations or activities are being monitored for him by Cyberstride are fluctuating within the physiological range of chance variation. But what about the Sector Committee, the Industrial Branch, the Minister of Economics himself? These are higher levels of recursion: how are they to be informed?

Here is the coup de grace of the cybernetician, in his role as variety engineer. All viable systems are contained within viable systems. It is the principle of recursion; the model is the same. So it is easy to see what next to do. The iconic representations, called quantified flowcharts, are to be aggregated at sector level, aggregated again at the industrial branch level, and aggregated finally at the level of total Industry. The quantifiers (those actualities, capabilities, and potentialities) are to be aggregated too—not, as is orthodox practice, in terms of averages, but in terms of new operational research models (crude, but effective) of the level of recursion concerned. In that case, raw data—heavily processed through atomic indices and through Cyberstride, which produces exceptions known only to the manager concerned—bypass that atomic level of recursion, and become raw material for a molecular level of aggregation higher up. Here they lose their identity; they merge (not by averaging but by modelling) into new molecular indices.

But these new indices, although they have lost a great deal of variety in the process of molecular aggregation, have acquired variety by the sheer amalgamation of so many enterprises. How shall we deal requisitely with this new variety? Well, it is represented by triple-indices, all operating between nought and one. So although the level of recursion changes, and although the atomic index changes to a molecular index, the Cyberstride suite of programs is invariant. The whole process I have described starts again. This time and again, exceptional information is fed back to its proper level of recursion: the sector, or the branch, or the minister.

Return with me now, for the last time, to the vexed issue of autonomy. I regard the whole of this work as a fanfare for freedom—but for effective freedom. The claim was made that the degree of autonomy, and its complement the degree of centralization, are computable functions of viability. I stick to that. By separating the levels of recursion, and within those levels by preserving freedom for each separately designed interlocking homeostat, the maximum autonomy consistent with effective organization is assured. A problem remains. What happens when, for whatever reason, the appropriate homeostat at the appropriate level of recursion FAILS TO ACT?

Many a freedom must have been lost from the fear that subservient systems down the line would not do their jobs. And, if not, it makes a good excuse for the tyrant. This is a classic and intransigent problem, but we can now deal with it easily—if we keep our cybernetic heads. An autonomous unit is supposed to react to any adverse exception reports that it receives from Cyberstride. How long will that take, and how much does it matter? The answer to both questions will vary widely. In our work we have included in the operational research modelling a requirement to assess the possible rate of reaction to change, and the relative importance to the system modelled of such a change, for every indicator. When the computer sends an exception report to a manager, at whatever level of recursion, it computes for the message an acceptable delay time which is a function of both the possible reaction time and the importance, and it starts a clock. If our quasi-intelligent machine fails to detect an improvement within this allotted time, it breaks with the autonomy and notifies the manager that it has done so.

These special signals are different in kind from the routine management signals. We call them 'aledonic'. The word means pain-and-pleasure; and it was work in neurocybernetics that taught me this answer. We rely on our bodily organs to do their jobs; but if they should fail, we get a special signal—transmitted by specially adapted neural pathways that bring the facts to our conscious attention. The mechanism is precautionary. Clearly it involves a threat to autonomy, but the body politic cannot sustain the risk of autonomic inaction any more than we can as human beings. And remember that there is nothing covert about this. The delay factors are discussed
with the managers concerned, and they are informed if the algedonic signal is transmitted. Indeed, they may be very relieved—if the problem is seen as beyond their control—to know that the signal has automatically gone.

In this way, just as in the body, a sign of special distress automatically breaks through to whatever level is required to deal with it (Figure 8). For if the management group which receives the signal fails to act within its appropriate time delay, the signal will go up to the level next above. Thus the signal makes it possible for a problem concerning that limestone crusher in the cement factory to reach the President’s Economic Council. Let us hope that never happens; but it would be surprising if signals of distress were never received there from the Sector level.

The Faculty of Foresight

The real-time control system I have so briefly described is founded on the following elements: a cybernetic model of any viable system; a cybernetic analysis of the real-life systems appropriate to each level of recursion, and their iconic representation; a design of a large number of interlocking homeostats; the provision of a national communications network capable of operating now on a daily basis and eventually on the basis of continuous input; variety engineering throughout the system to incorporate filtration on the human brain’s scale; and the Cyberstride computer program suite capable of monitoring inputs, indexical calculations, taxonomic regulation, short-term forecasting by Bayesian probability theory, autonomic exception reporting, and algedonic feedback. It makes quite a package, and it exists. It represents a system of here-and-now management of the economy that is not based on historical records, but on an immediate awareness of the state of affairs and the projection of that awareness into the short-term future.

Let us call this whole thing the NOW system. Then clearly we also need the FUTURES system. What are we doing all this for? If government is not to be merely the management of perpetual crisis, it needs to look ahead. Party-political programmes are supposed to be all about the kind of society the people want, and the government is supposed to be dedicated to achieving that. In practice, perpetual crisis drives out mandated intentions. It even happens (dare I say?) that entire sets of electoral policies become reversed when power is granted. This can be only because government has no arrangements for realistic normative planning. It has a political theory, but it does not understand the system it is manipulating. It is just laughable to say, for example: ‘the theory is all right, but the trade unions (or the City, or the banks, or the people themselves) will not operate the theory’. The unions, the City, the banks and the people are all elements of the total system that the government claims to be able to govern.

Thus I introduce what I have to say about long-range planning in terms of understanding systems and how they respond; and I do so in deliberate contrast to the many schools of thought that base their conception of inventing the future simply on forecasting it. My objection to that approach is twofold. In the first place I do not believe that we can forecast the future—and that is a fairly strong objection. The future, I reckon, is known only to God; and it seems to me that the class of men who have always come nearest to perceiving his intentions are the science fiction writers. They have usually been very close to scientific reality. The people who run society, who are famous for being ‘realistic’ and ‘responsible’, turn out to be outrageously irresponsible just because they are so unrealistic. Their unrealism consists in a refusal to notice what science is actually doing, and a refusal to think through the inevitable systemic consequences of the policies they underwrite.

These were the reasons why I was determined to provide the Chilean government with an instrument for investigating the systemic consequences of alternative
courses of action. For there really are choices to be made. When you read that car prices in Chile have gone up by 900%, in a single year, what is your response? Is this the inevitable result of Marxist dogma, is it just what you expect from nationalization, is it a measure of inflation, or what? To whom does it occur that it may be the result of a deliberate choice between economic desiderata? Thus are we all brainwashed by the consumer society, in which the motor car is an absolute god.

The second reason why I object to the forecasting approach to long-range planning is that it assumes that there is ‘a future’ out there, lying in wait for us. This is not true, surely, except in so far as larger systems beyond our own—and in which we acquiesce—take a stranglehold on us. I have already suggested that this may doom the Chilean experiment. The real freedom we have is to change our structures and our policies so that the future is different from the future we should have encountered had we not made those changes. And this is where understanding dynamic systems becomes the task. The fact is that we need not to forecast but to experiment.

Experimentation is not easily or perhaps justifiably done when we are talking of social institutions. Scientists undertake social experiments on animal populations, which they try to use as models of human populations—but the discrepancies may be very wide.

Probably the best experimental tool available is the computer simulation. According to this approach, one programmes a computer to represent the dynamic social situation, and then experiments on that. If one asks how such a model could possibly be validated—he learns that the model can be fed with historic data—on the basis of which it ought to simulate the appropriate historic outcome. That is at least a start in a demonstration of validity.

I introduce the topic of dynamic systems simulation in this way, calling it an experimental tool, because I consider there to be a great deal of misunderstanding on the subject. If we experiment on a model, putting in possible policies and reading off possible outcomes, then of course we appear to be making predictions. Some people have been causing a great deal of public disquiet with some such predictions about the ecosystemic future of the planet. Personally, I do not mind their doing so—because I believe the public ought to be thoroughly disquieted on this score. But we must make methodological distinctions here. In so far as these models make predictions, it is vital that projections of the input variables be correctly made. There is the rub because specialists disagree quite fundamentally about the trends that have been built into some of those models. Clearly, if it is taken as input that fossil fuel will run out by a certain date, then predictions for the ecosystem incorporating this input will be falsified if that date turns out to be wrong. But suppose our objective is not to make predictions, but to make experiments to find out how the ecosystem works. That is a different matter. We should put in a whole range of possible dates for the exhaustion of fossil fuel, and find out what difference they made to total performance and by when. After that, we should have a good idea what policy to adopt towards research into novel sources of energy. And that policy would not be the fruit of predictions that might well be falsified; it would be the embodiment of our understanding as to where the system’s vulnerability lies.

My belief is that government planning should be based on this same idea. If we make a dynamic model of the economy, concentrating our power of resolution on the areas in which our decisions appear most unsure or most frightening, then we shall learn how the system operates. The first task is to identify the crucial parameters, which (because complex systems are richly interactive and internally reverberating) are not always the parameters assumed to be critical. It is quite characteristic of cybernetic studies to obtain results that are counter-intuitive. Therein lies their value. The next task is to discover how those parameters may best be manipulated, which (because political dealing is a complicated business too) may be in roundabout ways rather than by direct intervention.

What matters about a dynamic system, if you want to understand how it behaves, is not so much noticing the sore points themselves, nor resolving the apparently insoluble politics of applying remedies to those sore points—all of which turn out to be unacceptable remedies for some segment of the population. What matters is to change the structure of the system, so that homeostatic equilibrium is restored and the sore points disappear. That involves variety engineering: it is likely to mean the redesign of institutions, the addition of informational feedbacks, and the calculated change of time-lags in various rates of flow. Economists, perhaps, would not recognize those three cybernetic prescriptions as counting towards the solution of what are regarded as economic problems. But are all our problems economic? I think there is a prior set of problems about the regulation of society (which it falls to governments to solve), which may well have economic causes and consequences, but which are themselves about effective organization.

Returning to the Chilean story, then, we wanted to create a facility for normative planning, suitable for all levels of recursion, embodying dynamic system simulation. Now the task of inventing a fresh computer compiler for this purpose was outside our time-scale. A number

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of compilers exists, and we chose to use the Dynamo compiler in its latest version\(^5\). The choice was made on the grounds of its elegance and its relatively long existence—meaning that it is very well debugged. The choice has been criticized, and will be again; because this is the very compiler used in the work that I referred to as making predictions about the planet using inputs that many ecologists regard as insecure. To me, that is like blaming the pornographic content of a book on the English language in which it is written. My defence of the compiler says nothing about my concurrence or otherwise with ecological predictions, any more than hearing my defence of English would tell you my views on pornography.

For the record, then, we again formed two teams—one in Santiago, and the other in London. These teams were organized differently from the two Cyberstride teams, and had no members in common; and this simulations pair operated in a different way. Instead of members of the London team taking program suites out to Santiago to be developed, as happened with Cyberstride, a member of the Chilean team came to London to learn a cybernetic skill. Moreover, whereas all the Cyberstride runs using actual data were undertaken on the Santiago computers, the simulation runs for a long time were undertaken on computers in London. In this way dynamic systems models for the Chilean futures system were originally developed, but by now the whole of the work is being done in Santiago.

There is much that is new about these models, but for obvious reasons I shall not discuss their content. What is worth remarking upon is the status of the information fed into them. As I said just now, models of this type are often criticized on the grounds that their inputs are suspect. Now this is not surprising; because, as I also said before, economic information at the national level is usually about a year out of date. But Cyberstride produces information that is immediate. Then there is a question about the interface between the real-time control system and the futures system. If absolutely current information can be used continuously to update our models of the world, a new era dawns in national planning. Well... at any rate it happens just like that in the brain. We should indeed be foolish to choose between the alternatives open to us as men on the strength of knowing what our circumstances were like last year.

**A Decision Machine: The Opsroom**

And now we reach the final question. How do we ‘get it all together’, How is so much sophisticated science to be made available to those who bear the brunt? In most countries, this is a function for the civil service. Those people constitute the ultimate filter. The ministerial briefing stands, however responsibly, between the minister and all those urgent facts of the NOW system, all those experiments in foresight of the FUTURES system.

I wanted ministers to have a direct experience, an immediate experience, an experimental experience. And what goes for ministers goes also, at another level of recursion, for managers—whether the managers of the social economy, or (at yet other levels of recursion) of enterprises or of plants. Above all, if ‘participation’ has any meaning, no-one must be disbarred because of an inadequate grasp of jargon, of figurework, of high-level rituals. As I told you before, the workers themselves must have access to the whole of this. Let me put the point before you in two contrasting ways.

When I first expounded the cybernetic model of any viable system (which I have not expounded today) to President Allende, I did so on a piece of paper lying between us on the table. I drew for him the entire apparatus of interlocking homeostats, in terms of the neurophysiological version of the model—since he is by profession a medical man. It consists of a five-tier hierarchy of systems. I worked up through the first, second, third and fourth levels. When I got to the fifth. I drew an historical breath—all ready to say: ‘And this, compañero presidente, is you. He forestalled me. ‘Ah’, he said, with a broad smile, as I drew the topmost box: ‘at last’—the people’.

I do not care what political outlook any of us may have: that story ought to convey a profound message. It deeply affected me, and it affects this work. The second perception of the same point that I give you comes from that *Litany* written by the folklore singer Angel Parra, which I quoted at the outset. This is what his song says on the subject (my translation)

\[
\text{Equal I say to the Minister} \\
\text{Selling promises forlorn} \\
\text{Since all of us are hostage} \\
\text{For that baby to be born.}
\]

Society can no more afford the alienation of the people from the processes of government than it can afford their alienation from science.

And is this really a political question any more, once we say that all of us are men? The fact is that no man, worker or minister, has more neurological jellyware than anyone else—although he may make marginally better use of his endowment. We have seen how that man, minister or worker, can be saved from drowning in a inundation of statistics and reports—through variety engineering, and the deployment of computers as quasi-intelligent machines. But how does the filtered information get into his head?
The answer to this lies in the operations room. If the connotation of that phrase reminds some people of a wartime headquarters, the allusion is quite deliberate. For in the opsroom real-time information is laid out, quite graphically, for immediate decision; and in the opsroom a synoptic view of the whole battle is made plain, so that the total system can be encompassed by human powers of foresight. We used every scrap of relevant scientific knowledge in designing the place—neurocybernetic knowledge of brain processes, knowledge from applied and group psychology, knowledge from ergonomics.

The opsroom looks like a film set for a futuristic film. But it is not science fiction; it is science fact. It exists, and it works; it exists and it works for the worker as well as the minister. [Photographs of this opsroom are reproduced on the inside of the dust jacket of this book.] There are seven chairs in there, because seven is the maximum creative group. There are various screens in there, all using iconic representations of information, because those are the sort the human brain can best handle.

The central screen—central in that all the others are referred to it—is a picture of the viable system (Photograph 3). It is eight feet high and four feet wide, and it is set up according to the recursion theorem, for whatever group happens to be using the room. The operations involved are marked in the circles; the current molecular indexical levels for the taxonomic triple-index in each element are shown by iconic descriptions in the square boxes. The total square in each case stands for potentiality; then the green level is actuality, and the red level is capability. You can see how easy it is, if you remember the explanation about their ratios, to get an immediate grasp of the relative levels of Productivity and Latency in each case.

There are a great many interlocking homeostats operating here, which can be discussed as people come to understand the cybernetic laws that govern their behaviour. This is not readily understood from a still photograph, and in fact this screen is animated. There are no arrows to be seen, therefore: just moving lines. Scientists often suppose that to mark a line with an arrow makes it clear that the total system so encumbered with arrows is actually dynamic. Not so; people read the arrows as indicating directional, but still static relationships. Besides, the most critical loops here operate at differential speeds (they can be changed)—which tells the brain a great deal about the relative lags in the system.

In the top third of the diagram, three boxes may be noted. The lower of these controls the NOW system, and the central one controls the FUTURES system. The top box (the boss or ‘the people’?) monitors their interaction, to which attention is drawn in the animation by a constant movement in the big yellow circle.

The Cyberstride exception reports flow on the horizontal red lines; and when they exist an Exception Screen is lit, giving details. An algedonic signal is indicated by flashing red arrows on the vertical axis (in the photograph, such a signal may be seen emanating from the middle element); and any algedonic activity lights the Algedonic Screen.

Shown in Photograph 4 are the two screens I have just mentioned. On the left is the Exception Screen, showing two alerting signals from Cyberstride, together with a first indication of the kind of warning coming through. On the right is the Algedonic Screen, showing signals from two different levels of recursion below—each marked by a red light flashing at a different speed. As I said, attention veers to these two real-time inputs because of the clues given on the main screen first described. Obviously both these screens are currently set up by hand, whereas they could be set by direct electronic output from the computer. But I would like to repeat that this is simply an annoyance due to component shortages; it does not represent a gap in the total cybernetic system.

This, then, is the real-time input to the opsroom—it’s sensing devices spreading out over three thousand miles of country, and its quasi-intelligent filtration continuously reducing an immense informational variety to human proportions. Then what will our seven-man team of creative thinkers want to do next? For make no mistake; the opsroom is a decision machine, in which men and equipment act in symbiotic relationship to amplify their respective powers in one new synergy of enhanced intelligence. They have to start talking and deciding on their actions. For this purpose, they will need background information; and I need hardly explain that there are no files, libraries of reports, or minutes of the last meeting here. Paper is banned from this place. The answer is Datafeed. (Photograph 5).

It consists of three data screens, as you can see, and a huge index screen. Each of the data screens in supported by five carousel projectors, each carrying eighty slides of iconic information. So we can choose three out of twelve-hundred presentations—one out of four-hundred on each screen. But it is obvious that twelve-hundred slides cannot be listed on the index screen above, however huge. How shall we get at our treasure-trove of supportive information? It is again a problem in variety engineering; select three from twelve-hundred. Of course, one could have a catalogue, and a decimal keyboard. That would have requisite variety. However, experience teaches that unskilled people will not usually agree to operate such devices. They see them as calling for a typing skill, and want to insinuate a girl between themselves and the machinery. Indeed, this fact has held up the development of on-line conversational computing.
very seriously indeed. We are faced with an ergonomic problem. It is vital that the occupants interact directly with the machine, and with each other.

In a creative conversation, men become very animated. They seize pieces of paper, and draw on them; they snatch the pencil, and change the drawing: 'no, no, it is like that'. The solution to the ergonomic problem takes note of all these things. We produced special chairs which swivel through 270 degrees of arc, in the arms of which are mounted panels containing large knobs of different shapes (clearly visible in Photograph 1). By thumping one of the three knobs in the top row, a screen is selected—and an index automatically appears on the control screen. The index is catalogued by the use of five symbols, which are repeated in the second row of knobs. By pressing the appropriate combination of knobs, the item selected from the first index appears on the control screen, in the form of a second index which lists the actual slides. So a second combination procures the required presentation.

The variety engineering says: there are \( 2^5 = 32 \) ways of combining five knobs; and if that is done twice, \( 2^{10} = 32 \times 32 = 1024 \) alternatives are made available. That is enough selection power to handle 400 slides on each screen, with plenty to spare for control engineering purposes. (Four buttons would yield only \( 2^8 = 256 \) alternatives.) One of the two knobs in the bottom row allows one man out of the seven to seize control of Datafeed with a thump, and the other releases the control when he says 'thump—that's what I mean'. There is no finicky skill involved in working this apparatus—and people seem to take to it very quickly indeed. As to all that thumping: I wanted to make the dramatic act of using the equipment an effective part of the creative conversation, just like seized the pencil, or banging the table.

Thus it is that when real-time inputs indicate the need for supportive information, the decision-takers may select on the three screens (for example, as in Photograph 5) the iconic flowchart that contains the relevant input, a photograph of the plant concerned, and some indexical information. If an expansion or explanation of that information is available, for example the history of a Latency Index may well be supported by an investment plan for realizing that latency, then a direct clue is given on the screen as to how to key that new slide into place (such a clue is visible on Screen Q. In the close-up of Datafeed (Photograph 6), the picture of the plant has been replaced with a list of products.

All this supportive information is semi-permanent. It must in principle be updated, but not too often. As to its adequacy, remember that all sixteen carousel magazines can easily be changed. so we have a new set of 1200 slide capacity) for each level of recursion. It is enough. In any case, there are two more back-projection screens in the opsroom to allow special presentations to be made. So far I have spoken about the NOW system, but certainly Datafeed supports the FUTURES system too. The relationship between the two is very clear on the huge main screen, where its corruscating homeostat is a constant reminder of the need to balance investment between what is and what will be. And that FUTURES system, with its simulation capability, has its own screen (Photograph 7). This is the flowchart of a typical Dynamo simulation—though not a very complicated one. The two points I want to make about it are unfortunately not communicated in this static picture.

The whole raison d'être for simulations is to work with them. They do not sit there 'making forecasts', as I said. The output of the model shown is a projection made by a computer of how the major variables will vary over the next ten years—if nothing changes—and that projection is illuminated on one of the spare screens. To understand how the economic system works, the people in the room need two facilities, neither of which is available on an ordinary flowchart. First, they must be able to alter the structure in front of them. That is easily done in the computer: attendant scientists can change a few equations on request, and produce a new read-out in a few minutes. But how do you alter the flowchart? The answer to that is to use flexible magnets, and we did. However, to decide how to alter the flowchart you must understand the flows—and therefore we wanted to animate this screen. The problem was how to animate a flowchart that you wish continually to reconstruct. The British suppliers of the animated equipment solved that problem; and I wish I could show you the flow-lines on this model moving, and how readily its structure can be changed.

Indeed, we could spend all day in the opsroom together without exhausting its meaning as a new tool of management, and a new route to worker participation. This is the first one ever built on these cybernetic principles, and it is only a beginning.

The room and its furnishings were designed and made in Chile. The optical system and control logic for Datafeed were designed and built in England, and both the animated screens were created by another British manufacturer. I have described such a room as this over many years, and once wrote: 'It is not the operational research, technology or experience that is lacking to produce the first (such) control centre. It is the managerial acceptance of the idea, plus the will to see it realized'.

6Beer, op cit.
The Inconclusion

This has been a very long lecture, but it deals with a very large subject: how the science of effective organization, which we call cybernetics, joins hands with the pursuit of effective freedom, which we call politics. What a new—and what a vital—issue those words betoken. Where have I heard them before?

'the cybernetics of men,
as you, Socrates,
often call politics…

You can tell from that name that I am quoting; and we seem to be up against a time-lag of two thousand years. But now we are doing something about it. Now we have some cybernetic tools.

What I have been able to tell you today, however, is plainly incomplete; please bear in mind that this whole thing began just sixteen months ago. Therefore, although the system exists, it is—in a proper academic sense—unproven. I expect that it, like any other infant, will be slapped on the wrist (if not worse) and told to toe the line—if not worse.

For during that period of sixteen months, various attempts have been made to overthrow the Chilean democracy. I have seen that, from fairly deep inside. Scientifically too, during that period, I have been told a hundred times that it would take more than twenty years to do what has now been done—during that period.

We have to take note that innovation, whether political or scientific, does not favour those who hold the real power. And if either kind of innovation stands to favour ordinary folk, and both these do, then it will be opposed.

For this reason, I am not naming here my many colleagues and collaborators. They know my feelings of esteem and affection for their ability, their dedication, and their friendship. What any of them asks of me that I can do, he should consider done.

For this reason also, I commend my compatriots here today to watch, more avidly than many doubtless have, what happens next in Chile. There will be lessons there for Britain, I believe; and for humanity.

So now good-bye.

I remember Richard Godman in this very place.
Requiescas in pace.

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The little house where I have come to live alone for a few weeks sits on the edge of a steep hill in a quiet village on the western coast of Chile. Huge majestic waves roll into the bay and crash magnificently over the rocks, sparkling white against the green sea under a winter sun. It is for me a time of peace, a time to clear the head, a time to treasure.

For after all, such times are rare events for today’s civilized man. We spend our days boxed in our houses, swarming in and out of office blocks like tribes of ants, cramped into trains, canned in aeroplanes, locked solid in traffic jams on the freeway. Our unbiblical concern for what we shall eat, what we shall drink, and what we shall put on is amplified and made obsessional by the pressure to consume—way, way beyond the natural need. All this is demanded by the way we have arranged our economy. And the institutions we have built to operate that economy, to safeguard ourselves, protect our homes, care for and educate our families, have all grown into large and powerful pieces of social machinery which suddenly seem not so much protective as actually threatening.

Mankind has always been in battle with his environment. But until quite recently in history his battles were on a reasonable scale, a human scale. He could alter his house, if he would brave the weather: he did not have to take on the whole city planning department and the owners of his mortgage and his overdraft. He could dress his children as he pleased, teaching them what he knew and how to learn: he was not flattened in this natural enterprise by educational authorities, attended by boards of experts. When he fought with danger, he matched his strength and skill with another animal of similar size to his: he was not unexpectedly knocked flying by two tons of steel travelling at sixty miles an hour. And if he faced the fact of death, that also was a personal encounter, win or lose: he did not live under the stress of a remotely threatened genocide or nuclear extermination. But this is how it is for us. We do not think much about it. When things go badly, there is all of this to blame, and not ourselves: perhaps that is some sort of consolation.

Do we indeed even want to think about such things? I believe that people increasingly do begin to question the assumptions of our society—and not because of any characteristic that I have so far mentioned. Most people alive today in urban societies settled long ago for the role of pygmy man amidst the giants of his own institutions, and for the reason that it meant apparent advance—a higher standard of living, as measured by the gross national product per head. But in the last decade or two something has come through to public consciousness. It is the doubt as to whether the whole apparatus of our civilization actually works any longer. Is it beginning to fail?

The evidence for this suspicion is plentiful. I instance the decay of previously rich and healthy cities from the centre outwards, creating ghettos and all the social frightfulness that goes with them, stark inequalities, private penury, social squalor, a rise in crime, a rise in violence. I instance pollution on a world-wide scale: the poisoning of the atmosphere, of seas and lakes and rivers. Then there is the widening chasm between luxury and starvation, whereby we somehow manage to concentrate more wealth with the already wealthy, and more deprivation with the already deprived. I will not go on with this baleful list, because conscientious people are already aware of these problems. The question I would like us to address in these lectures is just why? Because if we can fathom that, maybe we can also conduct a fruitful search for answers.

The first point to establish is the most difficult; and it is the most difficult because it sounds so easy. It is to say that all these institutions we have been contemplating—the homes, the offices, the schools, the cities, the firms, the states, the countries—are not just things, entities we recognize and label. They are instead dynamic and sur-
viving systems. Well, I did say it sounds so easy. Obviously these entities are systems; because they consist of related parts, and the relations—the connexions—between those parts. Obviously, too, they are dynamic. No-one believes that these institutions are just sitting there brooding; they are all “on the go”. Finally, if they were not surviving, they would not be there. And having taken the point that we are talking about such systems, it is too natural to pass it by—to pass over the point, pass around the point, pass through the point—without ever grappling with the real meaning of the point at all.

Although we may recognize the systemic nature of the world, and would agree when challenged that something we normally think of as an entity is actually a system, our culture does not propound this insight as particularly interesting or profitable to contemplate. Let me propose to you a little exercise, taking the bay I am looking at now as a convenient example. It is not difficult to recognize that the movement of water in this bay is the visible behaviour of a dynamic system: after all, the waves are steadily moving in and dissipating themselves along the shore. But please consider just one wave. We think of that as an entity: a wave, we say. What is it doing out there, why is it that shape, and what is the reason for its happy white crest? The exercise is to ask yourself in all honesty not whether you know the answers, because that would be just a technical exercise, but whether these are the sorts of question that have ever arisen for you. The point is that the questions themselves—and not just the answers—can be understood only when we stop thinking of the wave as an entity. As long as it is an entity, we tend to say well, waves are like that: the facts that our wave is out there moving across the bay, has that shape and a happy white crest, are the signs that tell me “It’s a wave”—just as the fact that a book is red and no other colour is a sign that tells me “That’s the book I want”.

The truth is, however, that the book is red because someone gave it a red cover when he might just as well have made it green; whereas the wave cannot be other than it is because a wave is a dynamic system. It consists of flows of water, which are its parts, and the relations between those flows, which are governed by the natural laws of systems of water that are investigated by the science of hydrodynamics. The appearances of the wave, its shape and the happy white crest, are actually outputs of this system. They are what they are because the system is organized in the way that it is, and this organization produces an inescapable kind of behaviour. The cross-section of the wave is parabolic, having two basic forms, the one dominating at the open-sea stage of the wave, and the other dominating later. As the second form is produced from the first, there is a moment when the wave holds the two forms: it has at this moment a wedge shape of 120°. And at this point, as the second form takes over, the wave begins to break—hence the happy white crest.

Now in terms of the dynamic system that we call a wave, the happy white crest is not at all the pretty sign by which what we first called an entity signalizes its existence. For the wave, that crest is its personal catastrophe. What has happened is that the wave has a systemic conflict within it determined by its form of organization, and that this has produced a phase of instability. The happy white crest is the mark of doom upon the wave, because the instability feeds upon itself; and the catastrophic collapse of the wave is an inevitable output of the system.

I am asking “Did you know?” Not “did you know about theoretic hydrodynamics?” but “did you know that a wave is a dynamic system in catastrophe, as a result of its internal organizational instability?” Of course, the reason for this exercise is to be ready to pose the same question about the social institutions we were discussing. If we perceive those as entities, the giant monoliths surrounding pygmy man, then we shall not be surprised to find the marks of bureaucracy upon them: sluggish and inaccurate response, and those other warning signs I mentioned earlier. That is what these entities are like, we tend to say—and sigh. But in fact these institutions are dynamic systems, having a particular organization which produces particular outputs. My contention is that they are typically moving into unstable phases, for which catastrophe is the inevitable outcome. And I believe the growing sense of unease I mentioned at the start derives from a public intuition that this is indeed the case. For people to understand this possibility, how it arises, what the dangers are, and above all what can be done about it, it is not necessary to master socio-political cybernetics. This is the science that stands to institutional behaviour as the science of hydrodynamics stands to the behaviour of waves. But it is necessary to train ourselves simply to perceive what was there all the time: not a monolithic entity, but a dynamic system; not a happy white crest, but the warning of catastrophic instability.

So far we have spoken a little of the nature of dynamic systems; but the other qualification that I used at the start was the word “surviving”. The wave is not a surviving dynamic system, because its destruction is built into its organization. However we certainly regard our institutions as survival-worthy. After all, they have survived until now, because they are capable of a trick we call adaptation, which waves are not. So why should there now be a fuss about instability and impending catastrophe?

Our institutions have already proven that they can survive, says the argument, and we can have confidence that they will continue to adapt successfully to change. Indeed, we insist that they must—for our institutions en-
I. The Real Threat to “All We Hold Most Dear”

Stafford Beer

Shrine everything we hold most dear. Beginning with the family unit, based on love and mutual support; extending through the school—and perhaps that alma mater the university; bound together in the cohesion of the neighbourhood, the community, and the churches; ramifying into business and the growth of prosperity for all; exemplified, protected, and projected by the state; this—our society—is an entity that survives, albeit by adaptive change. And if this society embodied in its institutions is threatened by too rapid change, then the answer that many serious and concerned people give is to reinforce the rules of the societary game, strengthen the institutions, tighten up the criminal, social, and moral laws, and weather the storm. That is the conservative attitude. It is not mine. It is not going to work much longer.

Indeed, we ought to face the fact that this theory does not work now. People convince themselves that it does, because they see society as an entity, and its main characteristic is to be held most dear. Then they grit their teeth and declare that whatever is wrong with it must and can be put right again. Broken barriers, swept away by permissive morality, can be repaired. Departed children can be summoned home to eat the fattened calf. The majority of people, who do not attend a church, are still (surely to goodness?) fundamentally Christian. The starving two-thirds of the world will eventually be fed (well, not those two-thirds dying right now, but their descendants).

And somehow a finite planet, with exhaustible resources, will be made indefinitely to support more and yet more growth. Oh no: this only even looks possible if we are dealing with a fixed entity, a society or a way of life that is held to enshrine eternal values, a golden ideal. If this has become rather tarnished, then it can be reburnished with a little elbow grease. So some people, and especially some politicians, seem to think.

But if society is a dynamic system all these phenomena are not simply blemishes—they are its outputs. These unpleasing threats to all we hold most dear are products of a system so organized as to produce them—

to produce them, and not their contraries. These are not accidental; and they are not mistakes. They are the continuing output of a systemic conflict which is due to specific modes of organization. And those modes of organization have currently arrived at a stage in their inexorable pattern of behaviour which, like the wedge-shaped wave of 120°, is incipiently unstable—on the verge of catastrophic breakdown. Or so I think.

I hope you will accept my invitation to investigate this hypothesis with me. And let me be more cheerful right away. These dire predictions I am making have to come about, which is why I said they were inexorable, if—but only if—we continue to support modes of organization into which these outcomes are inbuilt. We do not have to do that. We really can change the whole thing. But to succeed, we must first perceive the nature of dynamic surviving systems, and the conditions they must meet to remain stable yet adaptive.

In order to get rid of the concept of an institution as a fixed entity, we have to get rid of the classical picture of its organization. You know how this looks. The institution’s activity is divided into chunks, which are also perceived as entities; these chunks are divided into smaller chunks, and so on. In every chunk there is a bossman, with lesser bosses reporting to him and running the smaller chunks. This picture looks like a family tree; and it is useful for just one purpose. If something has gone wrong, you can use the picture to trace whose fault it is. In fact, this whole picture of an institution is just like a fault-finding chart that shows how an automobile is organized. Some people, and the channels connecting them, are shown in red (as if they were the fuel system), others are shown in blue (as if they were the electrical system), and so on. But nowhere on the automobile chart can you find such a thing as speed, which is what the automobile is all about.

What this orthodox organization chart leaves out of account, when it comes to understanding institutions, is that we are not dealing with pistons, pumps, and distributor arms, but with people; and the connexions between the parts are not crankshafts, pipes, and electrical wires, but human relationships. What matters about the institution is not its set of dependencies but its performance—if you like, its speed. The organizational forces by which the whole institutional machinery is held together include psychological conflict, loyalty and perfidy, integrity of purpose, hard and lazy work. They also include all manner of special arrangements making cross-linkages between the cousins of the family tree, which are the formal boards and committees, the less formal liaison officers and advisory groups, the informal old-pals network—and even maybe secret connexions whose existence will be denied. How can we picture this dynamic system in our minds, and how contemplate its output and stability?

I will ask you to think first of a tennis trainer—two poles held in place by guy-ropes pegged to the ground, and connected by a piece of elastic from the middle of which hangs a tennis ball suspended by an elastic thread. Suppose that an institution has only two members. They are sitting on the top of the poles—held firmly in place by the guy-ropes, which define their formal positions. What they must do between them is the work of the institution, and for this they need a connexion, which is the elastic thread. Now the role of the suspended tennis ball in this example is not too obvious, and it is vital to understand it. The ball stands for the output state of the system.
However complicated a system may be, there is one output state that defines it. That state is an output of the system—not in terms of what special things or detailed consequences are flowing from the institution’s activity, but in terms of its total net performance. This is rather like saying that a human being, characterized as he is by all manner of detectable outputs, is in the net state of sleep—or violent effort, or concentration, or fighting. Or again we might liken the tennis ball to the net state of a game of chess at the (let’s say) 26th move. There are all sorts of tensions implicit in the relationships of the pieces, and if the game were speeded up by cinemography we really should see a dynamic system operating under its organizational conflicts. But if instead we take a still photograph of the board at the 26th move, then the output state is a single state, and it might be called “white losing”, or “checkmate”.

If the men on top of the poles do their respective jobs properly, they will pull correctly on the elastic. The ball—which marks the output state of the system—will bob about for a bit, and then be still. The dynamic system is doing its work, and producing stability. If the men are inefficient, and cannot make up their minds how to pull on the elastic (especially if they keep passing the buck), then the ball will bob about for ages, and may never settle. This system is unstable. However: if we assume goodwill and reasonable efficiency on the part of the two men, so that they behave like proper elastic connexions, the ball will soon stop bobbing about. The time it takes to stop is called the **relaxation time** of the system.

Well, this picture is a bit too simple for our needs. So let us erect a lot more poles (try to imagine about forty of them) arranged in a circle, where our original elastic connexion marks a diameter. Now let us join all the new men on the top of these poles to the system, by giving each one a piece of elastic and tying the other end to the central knot. These new members of the institution are not all equally proficient, or loyal, or hard-working; and we can represent that by giving some of them thin pieces of elastic, and some of them thick pieces. The ball was disturbed while we did that, and I think we can bet that the relaxation time will now be extremely long. In fact, and this is really rather interesting: the harder all the men try conscientiously to manipulate the system so that it settles, the more unstable it is likely to become. Just imagine the chaos. “Hey, George, stop pulling a minute;” “Harry, you pull a bit harder.” And so on; in fact if all of forty men are each trying to give instructions to each of the others, we shall have 1,560 communication channels trying to speak all the time. You are right: **it isn’t going to work**.

The reason is that this system as a whole has too many possible states. I am not talking now about the solitary output state, but about the vast number of configurations which the organization itself can assume. Every one of those men on the poles may behave in a great many alternative ways; and these are permuted together to reveal the total richness of possible organizational behaviour. If we consider the total number of behavioural configurations that are possible, we have a measure of the system’s complexity. Let us turn this perception into a formal definition. The number of possible states of a system is called its **variety**. This will be a most useful word for us, so may I repeat: variety means the number of possible states.

Suppose that each man can do only one of two things, which is an absurd simplification after all. Then between them they can produce more than a million million possible sets of conditions for the system. It is too many; and the tennis ball will never be able to settle. At least, it will in theory. But in practice the world is not going to leave the system alone for long enough. Just imagine those poor men feeling they have almost exhausted the possibilities after a week’s work, when the cat comes into the garden, and takes a playful swipe at the ball with its paw. It is back to square one.

All our major societary institutions are high-variety systems; all of them need to have a finite relaxation time; but all of them are subject to constant perturbation—which is the word to use for the unexpected interference of the cat’s paw. How do they cope? There is only one way to cope, and all institutions use it—although they use it in many forms. They have to reduce the variety of the system. Here are some of the ways.

They may put in four more taller poles, and connect ten of the shorter ones to each. The man on the tall pole gives instructions to his ten subordinates. That reduces the total system variety, but it also interferes with the short-pole men’s freedom to do the best they can. It is in this way that freedom starts to be subordinated to efficiency; but the only alternative—which we must face—is total anarchy.

Second, they may put in a lot of rigid connexions, called rules, between the elastic threads, so that the system looks like a spider’s web. That also reduces variety. But that confounded cat keeps coming around, and spoiling the whole effort. Or suppose that the child of the house comes into the garden and takes a tremendous crack at the ball with a tennis racket. Then the system may not have the resilience to take the strain, and may collapse altogether.

A third variety reducing method used by institutions, for example banks and insurance companies, is to shoot the cat. This works, but is no fun if you are the cat. In any case, you had better not shoot the son of the house.

We have no time to go on exploring our model (for...
this is the name of our elastic network) but you can do that yourself. Remember these aspects of our work together so far. A dynamic system is in constant flux; and the higher its variety, the greater the flux. Its stability depends upon its net state reaching equilibrium following a perturbation. The time this process takes is the relaxation time. The mode of organization adopted for the system is its variety controller. With these points clearly in our minds, it is possible to state the contention of this first lecture with force and I hope with simplicity. Here goes.

Our institutions were set up a long time ago. They handled a certain amount of variety, and controlled it by sets of organizational variety reducers. They coped with a certain range of perturbations, coming along at a certain average frequency. The system had a characteristic relaxation time which was acceptable to society. As time went by, variety rose—because the relevant population grew, and more states became accessible both to that population and to the institutional system. This meant that more variety reducers were systematically built into the system, until today our institutions are nearly solid with organizational restrictions. Meanwhile, both the range and the frequency of the perturbations has increased. But we just said that the systemic variety has been cut. This produces a mismatch. The relaxation time of the system is not geared to the current rate of perturbation. This means that a new swipe is taken at the ball before it has had time to settle. Hence our institutions are in an unstable condition. The ball keeps bobbing, and there is no way of recognizing where an equilibrial outcome is located.

If we cannot recognize the stable state, it follows that we cannot learn to reach it—there is no reference point. If we cannot learn how to reach stability, we cannot devise adaptive strategies—because the learning machinery is missing. If we cannot adapt, we cannot evolve. Then the instability threatens to be like the wave’s instability—catastrophic.

I said before that there are solutions, but I have also shown that they concern organizational modes. They concern engineering with the variety of dynamic systems. By continuing to treat our societary institutions as entities, by thinking of their organizations as static trees, by treating their failures as aberrations—in these clouded perceptions of the unfolding facts we rob ourselves of the only solutions.

In particular: by advocating a new insistence on variety reducing methods which worked in a bygone epoch, we advocate precisely the wrong thing, and seal our doom. THIS is the real threat to all we hold most dear.

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NOTES IN SUPPORT OF THE FIRST LECTURE

Cybernetics

Originally defined by the late Norbert Wiener as

*the science of control and communication in the animal and the machine.*

Cybernetics is exactly thirty years old; the name was added in 1947.

This original definition points to the relationship between control and communication, and to the existence of general laws affecting equally animate and inanimate systems. The first principle of such general importance to be recognized was the significance of feedback in all systems, whatever the fabric of their components.

Thirty years on, this new definition might be preferred:

*Cybernetics is the science of effective organization.*

Variety

*is the measure of complexity in a system, defined as the number of its possible states.*

How the wave becomes unstable, and finally moves into catastrophic collapse.

(after René Thom *Stabilité Structurelle et Morphogénèse* [Benjamin, Massachusetts, 1972])
The poles with their guy ropes define the **formal positions** that people hold in an institution.

The ball defines a point representing the net output state of a system.

The **relaxation time** of a system is the time it takes the representative point to reach stability after it has been **perturbed** (for instance, by the cat—which stands for an arbitrary interference).

The larger the organization, the longer the relaxation time is likely to be. . . .

If everyone has complete **freedom** to do what he thinks is best, there will (unfortunately) be **instability**—which may feed on itself and become catastrophic.

If everyone is trying to communicate with everyone else, there will be \( n(n-1) \) communication channels open.

When \( n = 40 \), \( n(n-1) = 40 \times 39 = 1560 \).

Three of the main ways by which institutions reduce their variety:

1. A boss constrains the freedom of his subordinates,
2. Rigid connexions called rules constrain the interactions of the elastic threads,
3. Someone shoots the cat: the institution does not accept arbitrary interference, and forces those with whom it interacts into stereotypes.

### Proliferation of Variety

If there are \( n \) people in a system, and each of them has variety \( x \) (each can adopt \( x \) number of possible states), then the variety of the total system thus defined will be \( x^n \).

So if there are only forty people (\( n = 40 \)), each of whom has only two possible states (\( x = 2 \)), there are still \( 2^{40} \) possible states of the system.

\[
2^{40} = 1,099,511,627,776
\]

In the real world, we find that increased freedom (including new opportunities) proliferates variety to a point where our respected institutions cannot any longer cope with it.

### Hypotheses

The relaxation time of the institutional system is now on the average longer than the average interval between perturbations, with the result that the institutional system is permanently unstable.

Since permanent instability feeds on itself (because there is no recognizable stable condition on which to base learning and adaptation), this instability is likely to become, like the wave’s instability, catastrophic.
2. The Disregarded Tools of Modern Man

If you were sitting under an apple tree, and suddenly an apple fell on your head, to what force would you ascribe the event? Is there an apple-throwing monkey in the tree? Certainly not: the force involved is called gravity. Because we understand this force to be quite general on the planet, we do not propose to experiment when asked what would happen if we dropped the glass of water we are holding, or what would happen to an aircraft whose engines suddenly stopped. We reckon we know what would happen.

And yet the concept of a force which affects everything on the planet, regardless of what that thing is, and affects it to the same extent (so that a pound of feathers behaves just like a pound of lead, for equal air resistance), is a very difficult concept indeed. How can there be a force which affects everything, that you cannot directly experience, that finds expression only in mathematical terms, and that (counter to all intuition) treats feathers and lead the same?

Come, come, you will say: this is to talk like an ignorant savage. Even a child can answer those questions; and besides you can experience the force of gravity directly, because it is this force that your body measures when it senses weight. To this I reply: do you think you would have answered thus if you had lived around the corner from Isaac Newton in the year 1687?

Our culture has had nearly 300 years to understand the problems of Newtonian physics. It has had more than half a century to get its grip on relativity theory and the second law of thermodynamics, knowing that it is at any rate possible to make general statements about the physics of the universe. Not all of us, I dare say, would care to answer basic questions about these two, although one might have supposed that the culture would have imbibed them by now. The observed fact is that the culture takes a long, long time to learn. The observed fact also is that individuals are highly resistant to changing the picture of the world that their culture projects to them.

I am trying to display the problem that we face in thinking about institutions. The culture does not accept that it is possible to make general scientific statements about them. Therefore it is extremely difficult for individuals, however well intentioned, to admit that there are laws (let’s call them) that govern institutional behaviour, regardless of the institution. People know that there is a science of physics; you will not be burnt at the stake for saying that the earth moves round the sun, or even be disbarred by physicists for proposing a theory in which it is mathematically convenient to display the earth as the centre of the universe after all. That is because people in general, and physicists in particular, can handle such propositions with ease. But people do not know that there is a science of effective organization, and you are likely to be disbarred by those who run institutions for proposing any theory at all. For what these people say is that their own institution is unique; and that therefore an apple-growing company bears no resemblance to a company manufacturing water glasses or to an airline flying aeroplanes.

The consequences are bizarre. Our institutions are failing because they are disobeying laws of effective organization which their administrators do not know about, to which indeed their cultural mind is closed, because they contend that there exists and can exist no science competent to discover those laws. Therefore they remain satisfied with a bunch of organizational precepts which are equivalent to the precept in physics that base metal can be transmuted into gold by incantation—and with much the same effect. Therefore they also look at the tools which might well be used to make the institutions work properly in a completely wrong light. The main tools I have in mind are the electronic computer, telecommunications, and the techniques of cybernetics.

Now, if we seriously want to think about the transmutation of elements in physics, we will recognize that we have atom-crackers, that they will be required, and that they must be mobilized. We shall not use the atom-crackers to crack walnuts, and go on with the incantations. But in running institutions we disregard our tools because we do not recognize what they really are. So we use computers to process data, as if data had a right to be processed, and as if processed data were necessarily digestible and nutritious to the institution, and carry on with the incantations like so many latter-day alchemists.

The invitation to face up to these realities is a necessary one if there is to be any real chance of perceiving the proper role of currently available tools. For it is not something scintillatingly clever that I am proposing, not a complicated new extension of mind-blowing techniques that are already beyond most people’s understanding, not a “big brother” that will alienate us still further from the monstrous electronic machinery that by now seems to govern our lives.

I am proposing simply that society should use its tools to redesign its institutions, and to operate those institutions quite differently. You can imagine all the problems. But the first and gravest problem is in the mind, screwed down by all those cultural constraints. You will not need a lot of learning to understand what I am saying; what you will need is intellectual freedom. It is a free gift for all who have the courage to accept it. Remember: our culture teaches us not intellectual courage, but intellec-
tual conformity.

Let’s get down to work, and recall where we were. A social institution is not an entity, but a dynamic system. The measure we need to discuss is the measure of variety. Variety is the number of possible states of the system, and that number grows daily, for every institution, because of an ever-increasing range of possibilities afforded by education, by technology, by communications, by prosperity, and by the way these possibilities interact to generate yet more variety. In order to regulate a system, we have to absorb its variety. If we fail in this, the system becomes unstable. Then, at the best, we cannot control it—as happened with the bobbing ball on our elaborated tennis trainer; at the worst, there is a catastrophic collapse—as happened with the wave.

So next to something new. What is it that controls variety? The answer is dead simple: variety. Variety absorbs variety, and nothing else can.

Examine first of all the truth of that statement. Consider for example all the customers who are inside a departmental store. From the store’s point of view, this represents an awful lot of variety that has to be controlled. You will notice how I use the word “control”. It isn’t that these ladies and gentlemen have to be told what to do, and made to do it. It is that when one of them wants to buy something, the variety of the customer/store system goes up: a possible state has been made actual. The lady has chosen a pair of shoes, but she might have chosen a fruit cake. The store has to absorb this variety: there had better be someone on hand rather quickly to take the money, and wrap up the shoes. Moreover, there will also need to be someone on hand to do the same for the fruit cake.

But not for nothing is that store called departmental. There is a shoe salesman, and a cake salesman; that is what organizational structure is for—to carve up the total system variety into subsystems of more reasonably sized variety. The customer who is not clear what commodity, if any, will meet her need, represents variety that cannot be trapped by this departmental arrangement; her variety will be left over, not absorbed, if the store is not careful—and we can see how this means that the situation is out of control. But if the store is careful, it will have an information bureau—which exists precisely to absorb this excess variety.

Let us return to the shoe purchaser; we observe that she is becoming angry. This is because she cannot get any attention. The shoe salesman is dealing with someone else, and four more people are waiting. The other shoe salesmen are similarly occupied. Temporarily, at any rate, the situation is out of control, because at this moment the store has miscalculated the number of shoe salesmen needed to absorb the variety generated by the customer. Well, maybe you remember the concept we need to describe this affair, and its name. The name is relaxation time. Variety is cropping up faster in this system than the system can absorb it, and this is bad from the customer’s point of view. If it happens all the time, it will be bad from the store’s point of view as well: the customer will desert the store, looking for somewhere with a shorter relaxation time. So the temporary instability of service in the store will become permanent, and—at that very moment—incipiently catastrophic. The trouble with our societary institutions, of course, is that the citizen has no alternative but to use them.

Only variety can absorb variety. It sounds ridiculous, but the perfect, undefeatable way to run this store is to attach a salesman to each customer on arrival. Then we could forget about those departments, where the shoe salesmen are run off their feet, while the girls in lingerie are manicuring their fingernails, and absorb the customers’ variety as we go along. For, you see, not only do we need variety to absorb variety, but we need exactly the same amount of variety to do it. We were speaking just now of the law of gravity in physics: it is perhaps the dominant law of the physical universe. What we have arrived at in the departmental store is the dominant law of societary systems, the Law of Requisite Variety—named Ashby’s Law after its discoverer.

The example is ridiculous, because we cannot afford to supply requisite variety by this obvious expedient. We cannot give every departmental store customer a salesman, because we cannot afford it; but you may already have noticed that in very superior (and therefore very expensive) special-purpose stores, such as those selling automobiles or hand-made suits, this is exactly what happens. In fact you cannot shake the fellow off. Nor would you be able to shake off your personal policeman, if half the population were enrolled as detectives to spy on the other half. It is just because this is impracticable that we have crime. We cannot meet the demands of Ashby’s Law. But we must come somewhere near it, somehow, or we are in for catastrophic collapse. How is this done?

When varieties are disbalanced, as they usually are, we structure our organizations to cope. Fundamentally there are two ways, and only two ways, of doing this. Remember: you cannot repeal the laws of nature; and Ashby’s Law will exert itself. We met the first way in the last lecture. It is to reduce the variety generated by the system so that it matches the available supply of regulatory variety. You may recall the men we had sitting on the tall poles: this was their job. And I made a crack at the financial institutions for doing the same thing. I said they “shot the cat” that was generating variety by swinging the tennis ball. In other words, there is no way in which an insurance company can provide requisite variety for...
you—the unique human being: your variety must be attenuated, cut down so that your case fits a more general case. In theory, you can get the entirely personal quotation that corresponds to having your personal salesman or your personal policeman. Just try it (I have) and see what the insurance is going to cost. Now that is perfectly reasonable, because the claim to be able to handle every citizen’s variety is as ridiculous as I admitted my example to be.

One trouble with our institutions is that they do not admit that the only full solution would be ridiculous and that therefore it is not done. They should acknowledge, at least to themselves, that they are satisfying Ashby’s Law by variety attenuation. And the reason they do not admit it is that it sounds bad in the ear of our culture. Our culture insists on the uniqueness of the individual, but our society cannot live up to that. This is no criticism, it is a scientific fact. Our culture also insists on the absolute freedom of the individual, but our society cannot live up to that either. That too is a scientific fact. Then look at the mess we get into by our pretences. Instead of understanding the situation, and using science to do the best possible job of variety attenuation under the guidance of the consumer and of the electorate, we spend vast sums of the nation’s wealth—our wealth—on phoney claims. On the consumer side, we put on the advertising pressure to pretend that full account is taken of the customer’s variety—which is impossible. On the electoral side, we lose the freedoms we have, when our variety is attenuated, because we are not asked how the attenuation should be done. No politician would dare to ask his electorate that question, because he is too busy standing for the inalienable rights which it is perfectly obvious we have not in any case got. Nor can we have them: let’s look the facts in the face.

The second method of satisfying Ashby’s Law is the one used by the departmental store. It would be madness to attenuate the customers’ variety—by stocking only one kind and one size of shoe, for example, or by locking her in until she was served. The alternative is to amplify the variety of the regulatory part of the total system. You do not appoint a single salesman, but many, and you do this by departments; in each of them you try to calculate the statistical relationship between salesmen and customers, so that the relaxation time is held steady. There are scientific ways of doing this, but they are not often used. The amplification of regulatory variety comes in where one salesman handles many customers effectively. In societal systems, this is the preferable way to proceed, because it helps to preserve individual freedom. We do not do it, for several reasons—but only one is real. The others are subservient to this; Think of the outstandingly spurious reason first.

This is the most obvious reason, the cost; and there are two things I want to say about that. First: the cost of a societary system is taken as its primary measure in our society, whereas the valid measure to use is variety. The cost is not what it claims to be, namely the money that must necessarily be spent to achieve certain aims. In fact, the cost is whatever is provided in the way of funds, and this total available sum operates to constrain what we shall do—within the framework we already have. If this framework is merely a joke played on us by history, so that its structure is outmoded and its relaxation time is too long, then the system will not work: period. The thing is unstable. We pour in money to head off catastrophic collapse. But that is a silly thing to do. Because the money will—naturally enough—be spent on buttressing the framework, feeding in expensive variety to stop the relaxation time growing longer still, and making the instability actually worse (think of all those poles on the tennis trainer).

Second: the constraint of cost is entirely relative to the aims of society. The aims of society are of course a set of variety attenuators. We cannot do everything we conceive as socially desirable, and our aims—our programs—cut down the proliferating variety of societal choice. In so doing, the attenuator allocates the revenue that the taxpayer will bear. Once again, our culture prefers us not to look on the matter this way round. There is a total plausible revenue: come, then, attenuate variety—choose between developing a vertical take-off aircraft, fighting a small economic war with the United States for the ownership of Canadian industry, and doubling the price paid for bureaucracy by having everything done in two languages…

In the deathly silence I seem to hear following that solecism, I also seem to hear a faint voice (it must be a madwoman) crying: “I would sooner have a twenty-four hour child care service.” But that would cost money, and there is none remaining. Don’t be ridiculous madam, it’s my prerogative! The point is that our variety attenuators are built into the system. Freedom of choice has gone down this particular drain. So what about the anti-theoretical variety amplifiers? If the spurious reason for not using them is cost, the real reason is that it would mean redesigning everything—so as to get rid of the built-in attenuators, and install instead the amplifiers that could really work to achieve requisite variety, viable relaxation time, and hence some sort of social stability.

I have already suggested a list of three basic tools that are available for variety amplification: the computer, teleprocessing, and the techniques of the science of effective organization, which is what I call cybernetics. Now I am saying that we don’t really use them, whereas everyone can assuredly say: “Oh yes we do.” The trouble
is that we are using them on the wrong side of the variety equation. We use them without regard to the proliferation of variety within the system, thereby effectively increasing it, and not, as they should be used, to amplify regulative variety. As a result, we do not even like the wretched things.

If one of those unworkable institutions we were discussing buys a computer, what happens? It uses the thing, please note at enormous “cost”, to do more elaborately exactly what was done before. And, as we know, that didn’t work. One famous computer manufacturer ran an entire sales campaign for its new series of machines on the slogan that you needed simply to transfer the existing system whatever it was, lock, stock, and barrel, to the new miracle machine.

Well, that sounded good to the financial director, who had learned the hard way that immense costs are involved (yes, those same costs again) in implementing new hardware in software terms, but had not learned that the machine to do miracles is not yet invented. The effect on the institution was inevitable: to make the existing instability more unstable. It’s obvious really, once the concept of variety and the law of requisite variety are clear. The computer can generate untold variety; and all of this except of variety and the law of requisite variety are clear. The computer can generate untold variety; and all of this is pumped into a system originally designed to handle the output of a hundred quill pens. The institution’s processes overfill, just as the crest of the wave overfills, and there is a catastrophic collapse. So what do we hear? On no account do we hear: “Sorry, we did not really understand the role of the computer, so we have spent a terrible lot of money to turn mere instability into catastrophe.” What we hear is: “Sorry, but it’s not our fault—the computer made a mistake.”

Forgive my audacity, please, but I have been “in” computers right from the start. I can tell you flatly that they do not make mistakes. People make mistakes. People who program computers make mistakes; systems analysts who organize the programming make mistakes; but these men and women are professionals, and they soon clear up their mistakes. We need to look for the people hiding behind all this mess; the people who are responsible for the system itself being the way it is, the people who don’t understand what the computer is really for, and the people who have turned computers into one of the biggest businesses of our age, regardless of the societary consequences. These are the people who make the mistakes, and they do not even know it. As to the ordinary citizen, he is in a fix—and this is why I wax so furious. It is bad enough that folk should be misled into blaming their undoubted troubles onto machines that cannot answer back while the real culprits go scot free. Where the wickedness lies—and wickedness is not too strong a word—is that ordinary folk are led to think that the computer is an expensive and dangerous failure, a threat to their freedom and their individuality, whereas it is really their only hope.

There is no time left in this lecture to analyse the false roles of the other two variety amplifiers I mentioned—but we shall get to them later in the series. For the moment, you may find it tough enough to hear that just as the computer is used on the wrong side of the variety equation to make instability more unstable, and possibly catastrophic, so are telecommunications used to raise expectations but not to satisfy them, and so are the techniques of cybernetics used to make lousy plans more efficiently lousy.

But enough is enough. I expect that you would be more interested to hear what can be done about all this, than to hear more dreadful news. Then: may I tell you that the next three lectures will consider constructive policies for handling variety. We shall start with the state itself. This is rather bold, but you will understand by now that I believe we are all captives of gigantic systems beyond our individual control, and we need to understand them. Because, as long as we have any semblance of democracy, they are not beyond our collective control. Next we shall turn to the only thing that matters: the individual. He and she—not to mention their son and their daughter—are enmeshed in all this machinery, and they have to get out. If science cannot join with politics and management to do that, I might as well be giving the Massey Lectures in that ominous year of 1984, instead of in the year of 1973. On that reckoning we have eleven years; and frankly that is about the limit. The third of these three next sessions will return to the central topic of the institution.

And so, before I come to my last point, I would ask you—if you do me the courtesy of staying with these talks—to think over a crucial question before we meet again. It is the central importance of the law of requisite variety. Please think it through. Think of any complex, dynamic system. How is it regulated? It will certainly be proliferating variety. Is it not true that only variety can absorb variety? How is it done? Do you not indeed find that in successful systems systemic variety is attenuated, while regulative variety is amplified? It is usually a mixture of the two. I promised you that this stuff is easy, once you break with the expositions and explanations dished out by the culture. The thinking I ask of you does not have to be done on some remote level of abstraction, or at the highest level of state affairs. Cybernetic laws are universal.

For instance, you might think over how these concepts of variety, relaxation time, stability, and potential catastrophe, work for and against you on the journey to work. You can do exactly the same exercise in the course of
putting those high-variety young children to bed. Then think through how these concepts work in the big institutions of society that govern our lives. Ask yourselves how telecommunications—the telephone, television—affect those problems. Contemplate what you surely know about the role that computers play, and see if they are working on the right side of the variety equation. Finally, if it is all so easy, talk over the problem as to how we managed to get it all so wrong. Then maybe, you will see why I contend that there have to be some big changes, and that they have to come fast—before it is too late.

Then I come to the last point, which I hope will help in these deliberations. If the law of requisite variety is to be handled intelligently, and not just by leaving nature to find the variety balance (which of course can be nasty for us humans), then it follows that the regulative forces must not only dispose requisite variety—which is a number of possible states; they must also know the pattern by which variety in the system is deployed. On the journey to work we need to have enough options open; we also need to know the pattern of the highways—where they run, what the control points are like, what other drivers habitually do. In the process of putting the children to bed we need several variety amplifiers at our command; but we also need to know (as we do, but let’s make it explicit) the likely behaviour pattern of the children. Without these known patterns, proliferating variety looks even more threatening than it really is, which is bad enough.

What I have been calling a pattern is what a scientist calls a model. A model is not a load of mathematics, as some people think; nor is it some unrealizable ideal, as others believe. It is simply an account—expressed as you will—of the actual organization of a real system. Without a model of the system to be regulated, you cannot have a regulator. That’s the point. And you can test that too.

NOTES IN SUPPORT OF THE SECOND LECTURE

1687 was the year of the completion of Newton’s Philosophiae Naturalis Principia Mathematica containing the laws of force.

The Law of Requisite Variety (Ashby’s Law)

Only variety can absorb variety.

If varieties in a regulatory system are disbalanced, the system cannot attain stability. Assuming that the regulator has the smaller variety, there are only two ways of meeting the demand of Ashby’s Law. One is to attenuate variety in the system, the other is to amplify variety in the regulator. These strategies can be mixed.

Examination of institutional systems often reveals that the attenuators and the amplifiers have been installed in the wrong loops—on the wrong side of the equation.
Ashby’s Law Operating in a Departmental Store

Unstable: variety of store less than that of custom = inadequate service

Unstable: variety of store more that that of custom = unprofitability

Stable: variety matched on a one-to-one basis

Stable: variety matched on a many-to-one times occupancy basis
How the Abused Computer Replaced the Quill Pen

**Year 1773:** The public supplies minimal information to the institution and receives minimal information in return. The management receives minimal information too.

**Year 1873:** A larger public is asked for much more information, and receives much more in return. Quill pen administration continues, although the systems are mechanized. The management is threatened with an excess of information.

**Year 1973:** Inordinate demands for information are made on the public, which receives much less *useful* information than before. Quill pen administration continues, although the systems are computerized. The management is inundated with indigestible data.
How To Use the Computer According to Cybernetic Principles

The Public is conceived as a system, a model of which is contained in the computer. The public supplies minimal information, which the computer then synthesizes in the model. This amplifies variety as required to help the public, and attenuates variety to help the manager—thereby meeting the requirement of the law of requisite variety for each of them.

There is an evident risk in installing a model of the public in the computer, since the return loop might be misused by a despotic government or an unscrupulous management. In considering this however we need to bear in mind the cybernetic fact that no regulator can actually work unless it contains a model of whatever is to be regulated. Much of our institutional failure is due to the inadequacy of the contained models.

It is perhaps more alarming that private concerns are able to build systems of this type, without anyone’s even knowing about their existence, than that democratically elected governments should build them in open view and with legal safeguards.
3. A Liberty Machine in Prototype

The context within which most institutions operate is still the nation state, although this situation is rapidly changing. In some ways, national sovereignty is ceded to supra-national blocs; in other ways, smaller nations find their affairs profoundly constrained by the behaviour towards them of the big powers; in yet other ways, national sovereignty is just by-passed by the world-view of their own operations taken by the giant multi-national corporations. I have no idea what can be done to bring scientific analysis to bear on the effective organization of this global mess, unless the United Nations itself determines it. But it has seemed to me for a long time that any one nation, thanks to the power of modern communications, could gather itself together and make that kind of effort on its own behalf. So I have spoken and written these many years. In particular, I have expressed the view that the whole business of government, that gargantuan institution, is a kind of machine meant to operate the country in the interests of individual freedom. But, for just the kinds of reason examined in the first two lectures, it does not work very well—so that freedom is in question to a greater or lesser extent in every country of the world. So, I declared, let us redesign this “liberty machine” to be, not an entity characterized by more or less constraint, but a dynamic viable system that has liberty as its output. The two conceptions, as you know from the first two lectures, are utterly different.

What then is the problem? There is no need to be overawed by the pomp and circumstance of the state, once we have found the scientific way into the problems of effective organization, and understood the basic laws of variety. But is it lese-majesty to declare that the state runs on the same model as a departmental store, and has the same problems? Perhaps it would sound better to put it the other way round. Scientifically speaking, it just doesn’t matter—because the pattern for handling variety, which last time I called the model, is the same. If I say that it is precise to express this point by saying that the two organizations map onto the same model you will have no trouble. Because fortunately the phrase “map onto” in mathematics has exactly the meaning you would expect. A map is the pattern of something, represented with much attenuation of variety, but with its significant elements preserved.

Government handles its gigantic task of variety reduction by departments, just like the store. And like the store, it needs a supply of information about the on-going state of affairs. It needs a lot more information than the store, true; but that is irrelevant, so long as both institutions are deploying requisite variety—and this is where the mapping holds and the model is the same. The model also tells us that the relaxation time of the system must be shorter than the average interval between shocks, otherwise instability will set in. We saw how the departmental store handles that problem, and noted that if it failed there would be a catastrophic collapse, signaled by the desertion of custom. Now if government gets into that kind of difficulty, it is more difficult to recognize. By and large, the customers will not desert. That is to say, the nation’s population will not pack up and emigrate en masse. That would be a grave decision; besides, to be a little more cynical, the people may not be able to think of anywhere else to go that is any more stable than their homeland. This problem is very general, in fact it is universal, which is why it is so important.

How do we set about the diagnosis? In government, variety is handled by attenuation in four main ways. First, models are made of the country by every government department. At least, we just have to dignify the patterns that government has in its head as models, although in all honesty the mapping onto reality is not very good. For one thing, the senior departments were created long ago, and the national variety generators onto which they are supposed to map have changed their nature, their emphasis, and their rate. So new departments have to be set up to handle the excess variety, just as happened in our store example. But in governments’ case the results cannot be so good. The store does change its departments with the change of life’s emphasis, and the small excess variety is absorbed by the information counter. Government, however, does not change much; indeed it is singularly unadaptive, in my opinion because it has lost recognition of its stable state. So the excess variety for government turns out to be something really rather serious. An excellent current example is the total problem of the environment, a huge aggregation of unmapped variety. Naturally, the new department falls between the stools of all its old, component departments: it happens in every country. What we are witnessing here is the phenomenon of change that involves no actual alteration.

The second variety attenuator is the model that each department has of the component enterprises for which it is accountable. Consider the economy. Then, for example, there will have to be a model of industries, by industry, and models of those industries by product, by investment, by labour force, and so on. This is fine until we realize that these models treat the components as if they were entities, characterized by product, by investment, by labour force, and so on. But of course they are nothing of the kind. They are all, these component industries

Stafford Beer 84 3. A Liberty Machine in Prototype
and their component firms, dynamic viable systems; and the items we were listing are continuously variable inputs and outputs. In fact, mostly the things that interest us are best described as outputs of these systems, since the output determines most of the input. Investment (which sounds like an input), like raw material (which sounds like an input), is attracted into the system by the size and shape of the output. At any rate, these are concepts of system we are handling now—that much is clear; and it is also clear that it is not very clever to attenuate variety by freezing the continuous variables into arbitrary time epochs (such as periods, quarters, years, and five-year plans) when the essence of the business is the way it continuously generates its output through time. We need to observe continuous time trends, that is to say: rates of change, gradients, step functions, and so on. All that is necessary because we, as government, have to look to the interactions of dynamic systems. The models we have were constructed primarily to inform shareholders as to the proper custody of their money. No wonder the models don’t map onto each other.

When data have been generated by these low-variety models, covering long and static time epochs, within departments which no longer quite fit reality, they are aggregated. So this is the third variety attenuator. There are two main reasons for this aggregation. In the first place, a minister for example cannot handle all the raw information being generated, even though its variety has already been twice attenuated. His brain does not have requisite variety to match the data until they have been aggregated. The other reason is that commercial security demands aggregation, otherwise it may be easy to spot what a competitor is up to—if he is big enough, or localized enough, to stand out in the official statistics. Even so; both these reasons for aggregation of some kind do not justify aggregation of the kind we have—the total or the average—which, as I said, kills that subtlety of information that requisite variety demands from a dynamic system. Just imagine a doctor calling on his patient in hospital to be told by the nurse: “Over the last month his temperature has averaged 98.4°” or: “Yesterday your thirty patients had an aggregated average temperature of 98.4°.” These statements may be true, indeed it would be most surprising if they were not; and aggregation of some kind is needed if the doctor is not to sit all the month staring at the thermometer. But to decide which aggregations are the ones to use is a problem in cybernetics, not economics—and still less in administration.

The fourth variety attenuator of government information is by far the most dangerous. It is the delay imposed by the methods of collection and variety attenuation. How does delay turn out to be an attenuator of variety? Well: the situation as it really is today includes all the information that led up to it, and the most recent part of that series of data is doubtless the most important. So delayed information chops off the latest half of the variety implicit in the situation now. That means that government does not have requisite variety. It is very proper that economic statisticians should talk, as they do, about the “timeliness” of official information. But I want to dwell as before on something a little different in concept from an entity called “the statistical tables for last June”, characterized by whatever degree of out-of-dateness. I dwell on the fact that when the government acts, it is perforce reacting to a situation where the statistical delay often happens to be half a cycle in the economic rise and fall of prosperity, so that the government may find itself doing exactly the wrong thing most of the time. (I said “happens to be” but I believe that these two facts are actually linked within the system’s dynamics, so that the machinery for taking decisions locks on to the wrong part of the economic cycle.)

Then these are some of the problems of the four variety attenuators. Of course, my friends in government will groan. I am not telling them anything new, and I know it. But I believe I am explaining this familiar problem in a new way, a way which enables us to do something about it. We have fast communications: ah, but they are not mobilized. We have computers: ah, but they are busily taking over exactly the old system—and are actually taking longer than before to do the job. So look again now at the diagnosis. When the institution of government was consolidated, we had huge problems of variety attenuation which had to be solved by very crude methods. That was because all our facilities were low-variety facilities—we had no computer with remote terminals then. Now we do have these tools, but they are disregarded. These essentially high-variety regulators are used on the wrong side of the equation, not to cope with the truly high variety generated by the dynamic system, but to accept much attenuated variety from poor models with a time lag, and then to generate their own variety inside government. That is to say, a minister can always call for an elaborately reorganized set of data, on which complicated mathematics have been done; but it is the computer that generates the variety, and not the real world. This is quite fundamental nonsense. We are using our powerful tools to automate and to elaborate the limited processes that we managed to achieve with the unaided brain and the quill pen-processes which our new tools were invented precisely to transcend.

With this diagnosis in our minds, the prescription for action is not difficult to understand. First of all, we need better models of the components of the economy, and they must be dynamic models. That simply means that we need to see how the parts are inter-related.
firms. So we must start in the right place. The picture like a jigsaw puzzle. The pieces are representations of entities and dynamic processes. By what means does the firm try to give its people a sense of participation in the business? We have seen that static entity the house journal; we have seen in each production department that static showcase in which the assemblies to which our products contribute pathetically gather dust. All of this has a certain unreality, because it freezes the dynamics of living and working in its tracks.

Then contemplate a company that is run from a control centre, in which the dynamic flow chart, continuously reflecting the world outside by teleprocessing data into it, constantly holds the pattern, and uses the computer constantly to monitor all that variety. We are near to this concept in running a battle, or a warship, or an electricity supply system. But for some cultural reason the whole notion is alien to running the economy. Yes: despite all this talk about the firm, I have not forgotten that we are supposed to be discussing the management of the economy. The fact is that the total picture of industrial activity held by the government is made up of separate pieces, just like a jigsaw puzzle. The pieces are representations of economic sectors, or industries, and if these representations are not clear, the total picture when completed will be a total confusion. But there is a jigsaw within the jigsaw: the pieces of each industry are its component firms. So we must start in the right place. The picture of the firm must be sufficiently clear as to contribute to a clear picture of the industry. The picture of the industry must be sufficiently clear as to contribute to a clear picture of the industrial economy. And obviously, the question arises whether an autonomous firm will agree to collaborate in such a scheme. The reply is that government has many inducements to offer in obtaining the information it needs, and the greatest of these inducements is the fact that industry cannot expect sympathetic treatment from government policy if it will not contribute useful and timely information.

Then we can see what our potential model of the whole economy looks like. It consists of a dynamic system of simple models of dynamic systems, fitting into each other like Chinese boxes. Each box is called a level of recursion, because what we are doing is to reduplicate a cybernetic system of regulation recursively, that is over and over again, using the same components with appropriate variety adjustments. The law of requisite variety has to be satisfied at each level of recursion so that stability is induced, and off we go. Information continuously passes up and down this recursive system, appearing in its right form in the control room of the level concerned.

Now see what has happened to the problems of time lag and aggregation. Instead of accepting those problems, and misusing computers in the attempt to make adjustments for them by re-injecting variety on the wrong side of the equation, we have magically disposed of the problems altogether. I urge this precept on you: it is better to dissolve problems than to solve them. If time lags are a nuisance, don’t have any; use teleprocessing to eliminate the lag. If aggregation is a nuisance, do away with it: use computers to attenuate variety more cleverly.

The vision I am trying to create for you is of an economy that works like our own bodies. There are nerves extending from the governmental brain throughout the country, accepting information continuously. So this is what is called a real-time control system. Why should governments be trying to deal today with last summer’s problems—which are, in any event, settled one way or another by now? Then does this then mean that government will be flooded with masses of data that it cannot handle? Certainly not. My brain and your brain at this moment are both accepting all manner of sensory input—everything in the room is registering there, and that is good, because we may need to attend to something quite suddenly. Until that need arises, however, our brains automatically inspect all this irrelevant input, and filter out most of it.

This is what I mean by using computers as variety handlers on the right side of the equation. They have to accept all manner of input, and attenuate its variety automatically. What they will pass on to the control room...
is whatever matters. Now we tell our brains what matters to our bodies by detecting inputs that are deviating from what would normally be expected. Everything else maps onto the understood pattern in the model. Inputs fluctuate of course, but they fluctuate within limits that can be continuously calculated by probability theory—if you have a computer. So to recognize what matters the computer will need to make very very complicated calculations on every item of data coming in, and assess the chances that something novel is happening. In the huge majority of cases, nothing will be happening—in which case the input item can simply be discarded. It does not need to be stored in those gigantic data banks we keep hearing about, because it has no significance at all. We already know from our basic model what the ordinary variation is, and this input item lies within it. So what? Unless you have shares in electronic storage equipment, or are building a career as a bureaucrat, you will see no reason for keeping it. And if you are particularly interested in freedom, you will see every reason for throwing it away.

It now becomes clear why I was making those remarks earlier about cost. As soon as you think of running the economy by computer, the culture promptly feeds you an image of acres of expensive equipment. It is not required. What is required is an ordinary computer, with teleprocessing interfaces between itself and its inputs from the country and itself and the control room, plus an extraordinarily clever program. The cost is in that software, and not in acres of hardware, its maintenance and staffing. But if the regulatory model is the same at every level of recursion in the economy, because the cybernetic models map onto each other, only one set of software is required.

So now we may visualize the control room and the decision takers within it acting together in symbiotic relationships as a brain for running the economy. The nerves that feed information continuously to that brain pass into its computing lobes, where the variety filters work. The basic model appropriate to this level of recursion—which is in here running as an animated flow chart—is the focus of all discussion. It is constantly updated by the various kinds of alerting signal that the computers produce. These signals will cause the decision takers to call for more information, and they will use electronic storage to project that onto screens. Then, if they really wish to get down to serious decision taking, they will activate their dynamic systems models with their new data—and try out alternative policies by simulating them at very fast speed.

You probably know that it is possible by electronic simulation to make a ten-year-ahead projection instantaneously, and then to change your policy and see what difference it makes. This is to take an experimental approach to policy making, doing the experiments in the laboratory of the control room. So instead of experimenting on the poor old nation, and discovering ten years later that your policy was wrong, you can test and discard a dozen wrong policies by lunchtime without hurting anyone. After lunch maybe you will find a good policy.

Now it is true that much controversy surrounds simulation techniques. But this is mainly because of the inadequacy and the belatedness of the data fed into them. What do you expect with those low-variety models, aggregations, and time lags? But by redesigning the whole institution (and it is the only way) all those problems are dissolved, and the data feeding the simulations will be immediate, significant, and real.

Clearly this is no more than a brief sketch of the advocated approach, which is available in full, but of course much more lengthy, detail elsewhere. The fundamental criticisms that it has evoked are four. One says that instead of this being a Liberty Machine it means the death of individual freedom. I shall talk about this later on, because it is so important, and ask you to suspend judgment until you have heard the arguments.

The second criticism is related, but is different none the less. It says that this whole approach to running a country presupposes a regime in which the state either owns industry or intervenes massively in its affairs. This is based on a misunderstanding; it confuses the machinery of government with government policy. I am not talking about that policy at all, nor taking a particular policy for granted. I am talking only about the machinery with which any modern state is equipped in the necessary task of government, and I am arguing that it ought to work. Every government regulates, every government controls—to some degree or other. In short, it governs. These arguments have been concerned with the “how” of governing, not with the extent of intervention.

The third criticism says: it is all too simple. Real life is much more complicated than this. The only honest reply to this is a belly laugh. What is proposed here is simple enough, I hope, to be understood—once you know some of the laws of cybernetics; and if it is not simple enough to be understood, then of what conceivable use is it? Moreover, it is a very great deal more close to real life than the system we use now, because it is dynamic instead of static, systemic instead of a collection of entities, and because it really can handle variety according to scientific principles, which the existing system cannot.

Please appreciate that once you start to use systems thinking you need fewer data than before—because the data are synthesized within the model of the system. And this relates to the previous criticism, because I by no means envisage that a private business would supply more information than it does now: probably less.
Why is it that a doctor does not have to take your body to pieces, and measure everything in it, when you arrive saying: “I feel rotten”? It is because the doctor holds a good model of the human body: when he knows your temperature, pulse rate, and blood pressure, has inspected your tongue and observed the rings round your eyes, he already knows most of the usual stories. By using good recursive models of the economy we should achieve the same effect.

Ironically enough, while this third criticism says it is all too simple, the fourth criticism says it is all too complicated—you could never do it, or it would take twenty years. Maybe you have noticed that I have been describing this approach today with a force and confidence which you may have thought brash in describing a vision. Indeed, until two years ago I was much more gentle and tentative—even apologetic—in making this description. But today I am no longer guessing, because all the basic work has actually been done.

Perhaps you remember my describing how these lectures were prepared in Chile. I was not actually on holiday there, as it may have sounded, rather the reverse. Two years ago President Allende invited me to create a system of this kind for the Chilean people. Now Chile is not a rich country, and we could not afford all the apparatus we should have liked. For instance, we had to use ordinary Telex instead of teleprocessing. Even so, we made it. We had everything I have just been describing available—though not yet running the economy—in eighteen months.

In the few months that remained to us, we were teaching the workers, for whom this offering of science to the people was created, how to use the most advanced tools yet designed for national economic management. They could sit with their ministers in the economic operations room in Santiago, watching the animated screens, and discussing the alerting signals provided daily by that clever computer program. They had buttons in the arms of their chairs, so that they could command the appearance on other screens of supporting data—to the capacity of 1,200 different colour presentations, focused through sixteen back-projectors. They could also control preliminary experiments in simulation, on a huge, animated model of the dynamic system. These people, arm in arm with their science, were intended to become the decision machine for the economy.

You all know what happened. On 11th September 1973, Salvador Allende died in a bloody business, of which the consequences for mankind are incalculable today. I tell you solemnly that in Chile the whole of humanity has taken a beating. Of the lessons from my own work that emerge, I mention four. Firstly, it is actually possible to redesign the institutions of government according to the principles and practice of cybernetics. These are not wild dreams. Secondly, there is a long way to go in dismantling bureaucracy, and I shall discuss the problems of effecting change later in these talks. Thirdly, the possibilities propose an urgent task for our next meeting: to discuss the impact of such scientific advance as this on the status and freedom of the individual.

So I move to the fourth and final point for today. Individual freedom has been lost, momentarily at least, in Chile. I think I know how; but it was certainly not because the people became victims of technocracy. What is clear is that everything that I have described was accomplished (and ended) in two years, and it was not fast enough. When I drafted these lectures, and outlined the hypothesis you heard—that perhaps our institutions could not react fast enough to avoid catastrophic collapse—I remember thinking that I should have to defend myself against a charge of sounding a premature and too scare-mongering an alarm. Do you care to make that allegation now?
NOTES IN SUPPORT OF THE THIRD LECTURE

DIFFERENT systems map onto the SAME model by sacrificing whatever variety is not needed for the purpose in hand.

This mapping indicates change without alteration.

1. Models of Nation by Departments of Government:

departmental models map (rather loosely) onto national variety excess variety generates as things is caught by some new organization without a proper structure. Instead, the original departmental structures should be redesigned, and made adaptive to further change.
2. Models of Enterprises Within the Economy:

The arbitrary choice of significant characteristics and of time epochs masks important variety.

3. Aggregation of Statistical Information

4. Time Lages in Registering Information:

Perception (dotted line) of the movement of economic indicators is not only “too late”—it means that at the time of taking a decision the most relevant variety generated by the already inadequate model is suppressed. We may be led to do precisely the wrong thing.
4. Science in the Service of Man

The scene is a small airport at a vacation resort where a week-end conference on automation has been held for senior businessmen. Everyone is going home. The man in front of me at the desk finds to his horror that the flight for which he has a ticket is already full. “I am so sorry,” says the desk clerk soothingly. “We are having trouble with all the Flyaway Airline’s flights—something has gone wrong with their computer.” In the quiet of the little airport lounge, everyone is listening. A large man several places back in the queue leans forward and says loudly: “Excuse me, young man; I am a director of the Flyaway Airline. We do not have a computer.”

Some people laughed, but the general atmosphere turned to acute embarrassment. I do not think that this was because the desk clerk had been caught out in his white lie. As I argued in the second lecture, the computer has come to represent a malign influence, and something of which people are frightened; therefore people are most unlikely to call on its aid, or to demand its use in the redesign of society. But the embarrassment attending this incident also suggested that the great ju-ju none the less exists, and to deny that was a somehow dangerous act...

The title of this lecture is Science in the Service of Man, and I should be terribly surprised if its announcement caused so much as a blink of scepticism. A thorough-going job has been done in putting forward the slogan that science serves mankind, and the time arrives to examine this proposition with some care. This does not mean striking a balance between the benefits of nuclear power and the risks of atomic war, between germ control for better medicine and crippling the ecology with pesticides. Those debates raise apparently insoluble dilemmas for society because they are contradictory outputs of high-variety dynamic systems whose basic institutional machinery goes unexamined.

Science has been sold as the servant of man in the wrong way, and for the wrong reasons. Let us start with the source of wealth: production. Here science is put forward as the promoter of efficiency; and I do not have to trace for you the familiar story of the industrial revolution, of the assembly lines of mass production, of the resulting fall in unit cost; nor need I point triumphantly to the widespread availability of its products. But it is necessary to become conscientiously aware of the alienation that all this has induced in the industrial worker, so that social scientists are now engaged in frantic attempts to restore some sense of humanity to the working situation in which so many find themselves—a situation to which numberless millions in the Third World stand to be condemned in future, as their countries struggle for their share of the earth’s fixed assets. Something has gone wrong.

Turn secondly, then, to science as the servant of the consuming man. We have been sold labour-saving devices of every kind as the fruit of science and technology. The automobile got us out into the countryside—where we met everyone else in his automobile. The plethora of automatic devices in the house freed the housewife from drudgery at home—where she is the victim of their very efficiency, and of the steadily increasing difficulty (and steadily increasing cost) of having increasingly tawdry things put right. And in this same home, for all its apparent desirability, she often comes to feel trapped with her young children and the television set for company, an all-too-likely prey to mental states of anxiety or depression. Again, it would seem, something has gone wrong.

It is against this background at work and at home that science and technology are driven relentlessly forward towards a society of conspicuous consumption, since this is the only development that our economic machinery can countenance. I mean that growth is the order of the day. More goods must be brought within the range of more people, which can be done by more automation, more standardization, and lower unit costs—coupled unfortunately with an increasingly noticeable fall in intrinsic worth. Therefore people must be persuaded that this is what they want, that this constitutes the good life, and this is science in the service of man. But I believe that the society of conspicuous consumption is proving to be the most alienating force the world has ever known, and that the fantastic consumption of drugs (both legally prescribed and illegally acquired) is a useful index to the degree of alienation now in evidence. By now, something has gone very wrong indeed.

What does this brief analysis purport to show? It argues that the sense in which people accept that science serves man is a false sense, since science is in these typical ways being used to destroy man—in his humanity and in his joy of living. Moreover it is getting through to decent people that on a planet the resources of which are only now becoming recognized as finite, prosperity for all is a delusory goal. We buy increasing prosperity for we few at the expense of the many who can never attain it. As the alienation grows, there is increasing resistance to the idea of yet more science, with the result that new proposals for handling old problems by the use of computers and telecommunications are often greeted with something approximating public hysteria. I am thinking of electronic files on the citizen, or the kind of governmental control system that I described earlier. The point is that this panic is well justified, so long as society continues down the existing path, following its tech-
It follows that science has to be handled in a new way. There is only one solution that I can see. It is to remove the control of science and technology from those who alone can finance its development, and to vest its control in the people. As to scientists and technologists themselves, they are truly servants of that public; whereas the present tendency is to turn them into an elite instrument of those who have the economic power over scientific systems themselves. That way lies technocracy, and we are perilously close to it already.

How realistic can this solution possibly be? After all, people who have power simply never hand it over to others; moreover, in this case vast sums of money are involved. I reply that the solution is realistic in a democratic society to the extent that the demand to redesign societal institutions is made articulate. The process can begin by debunking the mystery surrounding scientific work. It would make a very good basic postulate for the ordinary citizen to say something like this to himself, and to discuss it with others:

“For the first time in history man science can do whatever can be exactly specified. Then, also for the first time, we do not have to be scientists to understand what can be done. It follows that we are no longer at the mercy of a technocracy which alone can tell us what to do. Our job is to start specifying.”

For this new channels are needed. But of course they could be set up. What is television for? Is it really a graveyard for dead movies; or animated wallpaper for stopping the processes of thought? What is the computer for? Is it really a machine for making silly mistakes at incredible expense? What will be done with cybernetics, the science of effective organization? Should we all stand by complaining, and wait for someone malevolent to take it over and enslave us? An electronic mafia lurks around that corner. These things are all instruments waiting to be used in creating a new and free society. It is time to use them.

Then as to cost: who will pay the bills? We do that already, since it is taxation and inflation that finances the schemes of governments, and a loading on the prices we pay that finances the schemes of corporations public and private. But as far as I can see, the citizens have lost control entirely of the choice of projects that will be undertaken on their behalf both as taxpayers and as consumers. At best, they play a defensive role in attempting to quash schemes they dislike; and that is a difficult role because it does not carry requisite variety with it. Anyone who has had dealings with a public enquiry knows only too well that the bureaucracy has the power to amplify its variety indefinitely—in terms of the time, money, and expert ad-

vice it is free to deploy against a little band of citizens who do not have access to these amplifiers.

Obviously, I am trying to dig beneath the surface layer of science and technology as we know it in society, to uncover new strata of scientific potentiality. The societal use of science we have is threatening; it becomes oppressive and alienating. The societal use of science we could have is a liberation. To grapple with that idea, I well understand, needs courage and resolve; the risk is that folk who see the very real dangers will turn their backs on the whole difficult business. But how safe would our great-grandparents have felt if plunged suddenly into a modern home, a modern street?

We have had three or four generations in which to adapt to a house alive with lethal electricity, a road alive with lethal trucks. We have had barely twenty years to adapt to the inventions and discoveries that these lectures discuss. Then no wonder the adaptation is not coming along too well yet. No wonder people feel at ease with an automobile that they literally dominate, and ill-at-ease with the computer which they do not. The interesting thing is that a majority (perhaps) of automobile-dominators do not understand exactly how those machines of theirs work, and yet use a similar ignorance of the computer’s viscera to explain their distrust of it.

Be that as it may, the problem of rapid adaptation for the individual that has now emerged is a similar pattern—in cybernetic terms—to the problem of rapid adaptation for the institution. Let us try to analyse the modern individual’s problems in the language that we have been learning, because this problem is indeed a problem of effective organization.

The first thing we have to face up to is quite a tough proposition for people reared in our culture. It is that whatever we humans can do is mediated by our brains, and those brains are finite. We have in the cranium a slightly alkaline three-pound electrochemical computer running on glucose at about 25 watts. This computer contains some ten thousand million (that’s ten to the ten) logical elements called neurons, operating on a basic scanning rhythm of ten cycles per second. Then this is a high-variety dynamic system all right; but it really is finite. It follows from Ashby’s Law that we can recognize patterns up to a certain limit, and not beyond. Thus if something is going on that involves a higher variety than the brain commands, we shall not recognize what it is. This is the old constraint of requisite variety again.

There are practical consequences to this. For instance, I am sure that the reason why we are making such a hash of the problems of global ecology is that we cannot understand them. I don’t just mean that they are awfully difficult, so that understanding will take a lot of research. I mean that we can not understand at all, ever. Very likely
this goes for many problems of government too, especially world government. It may even be true at the level of recursion where a corporation is managed. May I recall that the level of recursion is simply the focus of attention at which we contemplate any viable system, and that one level is contained within the next. So here is an unpleasing thought: maybe it is also true at our personal level of recursion. Perhaps we cannot actually understand our own lives, our own environment, any longer.

Now with or without full understanding, with or without the requisite variety to detect vital patterns, we have to cope somehow at all these levels. Of course we do it by making mental models. We simplify, so that the system we are considering will map onto our own brains. But that can be done only by attenuating variety, and we have no guarantee that we are not throwing the wrong information away. It is fairly evident that we shall become accustomed to discarding information in set ways, and to eliminating inputs that do not seem to fit very well the models we have developed. I think this must mean that what we all refer to as “reality” is a version of the universe that is very much cut off at the knees. To be rude about it, you could say that our humanity exists in sharing a delusion about the way things are.

At this point I would love to start talking about mysticism, or about psychosis, or about psychedelic drugs—especially I would like to talk about the relations between them. Because these three things have this much in common: they claim to deal with aspects of reality which our shared delusion filters out. But the point I was really after is this. The currently explosive rate of change produces perturbations at intervals that are shorter than the relaxation time of our institutional system: that was my earlier hypothesis. I have pointed to its realization in Chile. I now extend that hypothesis to cover you and me as individuals. Can it be, perhaps, that we all suffer from a variety overload that we cannot map onto our models, and from an ungovernable oscillation in our search for mental equilibrium? In short, is our species facing the same threat of catastrophic instability as I earlier argued that our institutions are?

It could be so. One of the greatest biologists of our time, Albert Szent-Györgyi (who discovered vitamin C), believes it—and not at all from the reasoning I am using here. He calls man “the crazy ape”, and reckons that we have all gone down an evolutionary blind alley. Well, I am by nature an optimist. But I do believe in facing facts. If you suspect that my advocacy in these lectures of almost revolutionary change in our approach to running affairs is too extreme; if you consider that I have overstated the failure of our institutions; if you think that the remedies I am proposing are more dangerous to human freedom than the disease itself; then please wonder about these new and serious thoughts.

They concern the variety engineering to which our culture subjects our personal input, because for me this is what freedom is all about. I am tired of being told that the computer threatens our freedom, that cybernetics is a tool of the devil, that real-time governmental regulators are too dangerous to employ. The reason is that I reckon our existing liberty to be largely illusory: we are fooling ourselves. There is a new chance, now, to get our freedom back, even for us to bestow freedom on those who are following in our disastrous paths.

Please look at it this way. We all know that a majority of people on this planet are enslaved. I mean this in the straightforwardly physical sense. Most people alive do not have enough to eat, and must live under regimes that tell them what to do. By such standards all of us who share these broadcasts are incomparably better off, more free. The fact remains that our own relationship with our environment is governed by bank upon bank of variety attenuators, conveniently reducing a world of increasing variety to the requisite variety of our brains. We have completely lost control of the processes by which this occurs. Here are the two most evident examples.

The first is education. Every pupil is a high-variety organism, and the process of education essentially constrains variety. In other words, the pupil is capable of generating many responses to the question: what is six multiplied by seven; the educator will seek to attenuate this potential variety to the single answer: forty-two. But if we take a different kind of example, we may find ourselves saying something significantly different. The pupil is capable of generating many responses to the question: how should a national health service be organized? This time, however, we may hope that the educator will not attenuate potential variety to the single answer: like this. No, we say; education is a word coming from the Latin: e-ducere, “to lead out”. It does not mean “to push in”. And yet it remains true that in any case the process of education constrains variety. Anyone who thinks over this little paradox for a few minutes can see that, in the second example, the hope is that we can teach the pupil ways of attenuating his own variety. We want to offer him ways of finding answers, not of enforcing our own.

All this is perfectly obvious, you could rightly say. But do we proceed on the basis of this distinction? Of course not. Off we go once again, inserting the amplifiers and attenuators on the wrong sides of the equations. Take the question I mentioned: How should a national health service be organized? What happens? People are sent from under-developed countries to study this matter in over-developed countries—where in truth they may well discover how a health service should not be organized,
and be robbed by the experience of the power to devise better answers. Take the question: How shall we train the work-people to engage in fully participative management, so that the outlook of the shop-floor can be represented in the board-room? Can you believe that the answer I hear advocated to this is that selected workers should be sent to business schools? The variety equation is overturned once again: here is a recipe to ensure that on arrival in the board-room the worker’s participation will be indistinguishable from that of the other directors. Take the question: What is the theory of relativity? Because of the cultural myths that all technology is dehumanizing, and that all great minds are incomprehensible, we shall prefer to sit a hundred pupils uncomfortably in front of a human teacher who hopes he understands relativity, and who roughed out some notes last night, rather than to give the individual pupil access to videotape recordings which he can replay to his hearts content, of Albert Einstein—who could be as lucid as the day.

Oh yes, I know that Einstein is dead, and did not even make those recordings. What I should like to know is how many Einsteins shall we let die, and how many theories of relativity shall we let go improperly explained, before we recognize where to use our variety amplifiers and attenuators with good sense?

The problem is nowhere clearer in the field of education than in the evolving use of the computer. Here, once again, the machine could be used as a real liberator. It is an instrument of colossal variety, to which each pupil could have ready access. Thanks to parallel processing, a computer can be interrogated, explored, used, continuously and in different ways by a few hundred pupils at once—it has requisite variety. So what happens? The variety is attenuated out of the computer, by making it operate trivial little programs that actually condition the pupil to give the right (in quotes) answers to a set of trivial questions.

Which brings me to the second example, namely publishing. If education begins the process of constraining our cerebral variety, publishing (whether on paper or by radio waves) continues it for ever. The editorial decision is the biggest variety attenuator that our culture knows. Then the cybernetic answer is to turn over the editorial function to the individual, which may be done by a combination of computer controlled search procedures of recorded information made accessible by telecommunications. Cable television has all the potential answers because it can command eighty channels. This offers enough capacity to circulate the requisite variety for an entirely personalized educational system, in which the subscriber would be in absolute command of his own development.

Well, we are frightened of this projection too. Some-
may (or may not) lie outside the physical domain. If mankind can indeed receive the divine afflatus, the point remains as I rather carefully put it just now—that the brain is a finite instrument that mediates all our experience, and is therefore limiting. As a personal aside, let me say that I am more interested in the fact that I could not recognize an angel if I met one, because my brain does not have requisite variety, than I am in the illegitimate scientific argument that angels do not exist because I have not recognized one yet.

Returning to the main argument about the limitations of the brain, I have argued that we as individuals are the unwitting victims of a cultural process which very drastically delimits variety for us. In the first place our economic environment points to an increasing use of science and technology in what is allegedly the service of man—but which I contend takes this service in a false sense. As a result, we stand, and the innocent legatees of our policies in the developing nations yet more vulnerably stand, to be exploited by whoever wields the power of science to technocratic ends. In the second place, the instruments of variety constraint turn out to be education and the communications media—both of which we culturally suppose to be variety amplifiers. This belief is as delusory as the belief that we can fully know reality.

It is entirely possible to take corrective action about all this—not the biological limitations, but the societary constraints. To do so requires that people themselves take control of the use of science, through their democratic processes. This means furnishing them and their governments with new channels of communication, and a new kind of educational system, and a new kind of publishing system.

Why are these recommendations necessary? The answer is that the necessary attenuation of variety produces in us a mere model of the world. And insofar as we wish to control the world, whether as citizens or as individuals within a personal environment, our powers of regulation are cybernetically constrained by the model we hold of what needs to be regulated. Our civilization has led us to a manifestly dysfunctional model. Then we must equip ourselves to revise it. The power to do this we certainly do possess.
NOTES IN SUPPORT OF THE FOURTH LECTURE

A Key Statement

For the first time in the history of man, science can do whatever can be exactly specified.
Then, also for the first time, we do not have to be scientists to understand what can be done.
It follows that we are no longer at the mercy of a technocracy which alone can tell us what to do.
Our job is to start specifying.

Some Counter-Intuitive Cybernetic Statements

*Education* constrains variety, because (although it may open new vistas) it leads us to reduce the alternatives that we are prepared to entertain.

*Publishing* (“the media”) constrains variety, because (although it too may open new vistas) it decides in practice what alternatives shall be accessible to us to entertain.

*Technology* is not of itself dehumanizing, though technocrats may make it so.

*Great Minds* are not incomprehensible, because the brains behind them have ordinary human variety, but many institutions have a vested interest in concealing this.

The Brain and Requisite Variety

<table>
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<th>WE CAN</th>
<th>CAN WE?</th>
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<tr>
<td>recognize each other</td>
<td>recognize ecological systems?</td>
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<tr>
<td>do mathematics</td>
<td>recognize an angel?</td>
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<tr>
<td>handle perhaps three quantified variables in our heads</td>
<td>undertake world governments?</td>
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The Brain Is Finite:

The brain is a slightly alkaline three-pound electrochemical computer, running on glucose at 25 watts. It contains $10^{10}$ (that is, ten thousand million) nerve cells or neurons, which are its computing elements, operating on a scanning rhythm of ten cycles per second.

Why 25 watts?

About a quart of blood (about a seventh of the circulation) flows through the brain every minute, and is heated about one degree Fahrenheit. That takes about 25 watts.

Why ten cycles per second?

The resting state of the brain, called the alpha state, is characterized by the alpha rhythm, which tends to be stable at around ten cycles.
The Risk of an Electronic Mafia

buy these publications, mail orders for these, give this “public opinion”

watch these shows, use this credit card? and this? to buy this

and is therefore exactly like this with... certain susceptibilities...

Good Morning! Your new life style! New politics! New religion! How can I ever thank you?
• Tell me a whole lot nore about news item six.
• Show me the family tree of King Priam.
• Get Back the work I was doing on my new house.
• Entropy? I don’t understand. Stop all this and explain.
• Record in my tax file that today I bought a dog.
• Tell Jack in Vancouver I’m ready for the chess match.
• Beethoven’s Fifth Symphony, the composer conducting.

.......... oh I see.

AND DON’T TELL ANYONE ELSE UNLESS I SAY SO.

A famous summit conference, not to say confrontation, about freedom once occurred about twenty miles from my home in England. It lasted from 15th to 23rd June, in the year 1215. During those negotiations between King John and his barons, the Magna Carta was signed: a document that spoke for all time of the decentralization of power and of the rights of individuals, and is still much quoted 750 years later. I remember from my boyhood a humourous monologue explaining these events, which ended something like this:

So it’s thanks to that Magna Carta
that was signed with the barons of old
that in England today we can do as we like
—so long as we do as we’re told.

The blatant contradiction embodied in this joke remains the desperate problem that it always has been. How do we sustain individual liberty and societary cohesion at the same time? It is right that this problem should be incessantly discussed, and it is discussed. But the discussion always seems to lead straight into the same disastrous trap; a false dichotomy between the notions of centralization and decentralization. The vehemence with which this matter is debated is extraordinary, because the most cursory consideration of what constitutes a viable system reveals how false the dichotomy must be.

For example: if you personally were a fully centralized system, you would need to remember to tell your heart to beat. If you paid too much attention to what I am saying, and forgot, you would collapse on the floor. That would be dramatic, but it is not what I am trying to achieve with you. But if you were a fully decentralized system, you would trot off from this broadcast to investigate any sound. Neither solution would leave you a viable system for long. Let us analyse the blend of central and peripheral command and see what happens.

We discovered earlier that viable systems are bombarded continuously with high-variety stimuli, the variety of which has to be attenuated if the system is not to be overloaded. The attenuation must be done according to a pattern, if it is not merely an arbitrary discard. If that pattern is to have survival-value (which is a necessity for a viable system) then it must be a regulatory model of whatever is regulated. Then it follows that this has to be a central function for the system, because only the system as a whole can have a model of its own relationship with its own environment.

Nonetheless, when the central function of variety attenuation is operating, it is by definition not appropriating to itself the discarded variety. But by Ashby’s Law we know that variety must be absorbed somewhere. Therefore whatever variety is not appropriated by the central function must needs be handled by a decentralized function. This variety handling is by definition autonomous. That is to say that some part of any viable system does what it likes. But of course the autonomous part of the system remains part of the system, and to do that it must take notice of the central regulatory model. To that extent, then, it does what it is told.

If we make a terrible mess of interpreting these simple cybernetic discoveries in our society, and I feel that we do, it is because there is no agreed machinery for settling clearly which parts of the system are which. To do so is indeed virtually impossible unless the models in question are made explicit for each level of recursion. To remind ourselves: a level of recursion is a level at which a viable system is in operation, as an autonomous part of a higher-level viable system, and containing within itself parts which are themselves autonomous viable systems. We spoke of this set-up before as being like a set of Chinese boxes.

We find the process of settling autonomy going on continuously within any viable family, for example. As the children grow older, they exert more and more their personal freedom of action. But this has to fit into the family’s general regulatory model, at a higher level of recursion. Thus a great deal of time will be spent in discussing the notion of autonomy for the younger members, and the time required has to be a great deal because requisite variety must be attained. In the upshot, families often manage to preserve their model of the family, which is centralizing, and the liberty of the younger people, which is decentralizing—and forget altogether to consider the right of freedom for the parents, who then become identified with the centralizing authority. This, you will note, is not at all to the parents’ advantage (since they have lost freedom in the process) although it may appear to be so to the children.

This homely example is repeated, with great force, in the yet higher levels of societary recursion. A well-intentioned corporation or national service tries to hang on to its systemic policy—because this is what makes it itself, this is what embodies its aims, this structures its regulatory model. But that policy is centralizing. Then the corporation and the national service, being well-intentioned, embark on high-variety negotiations with the parts of the system, in order to delineate autonomy—which they really wish to be maximal. But the tools they are using are not cybernetic tools, that undertake variety engineering, but administrative tools which do not. As we have several times noticed, bureaucracies install amplifiers in one loop of the homeostat when they should be...
installing attenuators in the other and vice versa. The upshot now is really quite strange, but nonetheless extremely common. The parts of the system—subsidiary companies, sectors of the national service—who have been in good conscience given maximal autonomy, believe that they have been totally centralized. This is because their variety is attenuated by wrongly installed central amplifiers. But, on the other hand, the higher management at the centre, in conceding in good conscience maximal autonomy, believes that it has somehow been robbed of any role at all. This is because its variety is over-attenuated by wrongly installed peripheral attenuators. In the family, given quite a lot of hard work, everyone can just about hang on to happiness. But in big institutions, where—we have to remember—the brains of all the men and women involved are still the same size as they are in family roles, disenchantment spreads.

I often reflect that our organizations are so constructed in their typically pyramidal shapes, so that they could work only if the people in them grew bigger heads as they became more senior. In that case, of course, there would at least be a chance that they could maintain requisite variety. However, as we know, everyone’s head is roughly the same size—except, perhaps, metaphorically. I also reflect upon the device whereby “decentralization” is often advocated as the solution for an institution’s problems, when it is held to be over-centralized, while “centralization” is simultaneously prescribed for another institution on the grounds that it is too diffuse. And I have seen the two policies advocated alternately, and what is more alternately adopted for the same institution by successive groups of consultants. It is a kind of managerial madness. It leads, as it can only lead, to exacerbated oscillations in the system’s search for stability.

The solutions lie, they can only lie, in good variety engineering—and here is the key point. We must not confuse the pattern of the regulatory model with its specific content. It is enough to attain requisite variety by specifying the pattern. To specify the content is too much. Yet this is what endlessly happens, and I have noted that it usually happens—in those well-intentioned institutions, in good conscience—for one fundamental reason. This is called “fairness”. But I believe this kind of fairness to be an excuse for avoiding responsibility.

Take the example of a big institution that has a salary policy, or an employee automobile policy, or an inventory policy. We need a way of saying what the policy—which is to say the variety-attenuating regulator model, or pattern—really is without specifying its specific content. We fail. We ought to say: this much can be spent on salaries, on automobiles, on inventories, and leave it to managers at lower levels of recursion to apportion the money. Instead we do the variety engineering in the wrong place. “This is the salary scale”; “You are entitled by your job to this range of automobiles”; “All inventories must be cut by ten per cent”. It is done, as I said, in the name of fairness, but that is delusory.

It is nonsense to say that two men of the same age, with identical qualifications, with identical commitments, are necessarily worth the same wage. Obviously not. One may be useless, and the other a paragon. It is nonsense to say that my job ought somehow to determine my needs where automobiles are concerned. How and where I live, how many children I must push into the automobile—these are my own affair. It is nonsense to penalize a good manager who works on a scientifically calculated minimal inventory because his colleague managers are inefficiently tying up the firm’s capital. This is a recipe to encourage inefficient managers. Why do we blandly accept so much nonsense?

The variety attenuators to use here are not policy documents from the centre, but the managers themselves. That is what managers are for. As to the criterion of fairness, the manager—or any individual, in whatever he does—ought to be ready to take responsibility for his own decisions. Our society militates against that morality (for that is what it is) with all its force—in the name of an efficiency which is thoroughly bad cybernetics, in the name of a fairness that is manifestly unfair. But please remember the precept: each of us should take responsibility for his own acts. The practice is precisely the contrary.

As usual, then, we have the amplifiers and attenuators on the wrong side of the equation. But all of this is now written into our culture; all of this is now underwritten by our bureaucratic formulae. That is why I have repeatedly argued that fundamental change in our modes of organization is essential. Merely to juggle with existing forms simply increases the swing of the oscillating pendulum that never can find its stable state. And, as I have mentioned before, this means that the system is robbed of the crucial reference point without which it cannot learn, cannot adapt, cannot evolve.

How do we set about making so fundamental a change as would bring our ways of working into line with the scientific rules of this game? To answer this question it is necessary to understand the nature of resistance to change. Here is a phrase that is on everybody’s lips—“there is a resistance to change”—but it is a phrase which is not analysed according to the principles of effective organization. People seem to imagine that they are confronted with a psychological hang-up, insofar as men and women are not supposed to like change.

But pause one moment, is that true? People, considered as individuals, it seems to me, like change rather a lot. Don’t you get bored when nothing changes? I
know I do. Then just why do we go around saying that there is a resistance to change? Of course, the answer is simple. It is not the living, breathing human who resists change in his very soul. The problem is that the institutions in which we humans have our stake resist change. Therefore we feel as individuals that we cannot afford to embrace it. And this is an extremely sound argument.

If you have spent a lifetime working your way up a ladder, you literally cannot afford to be robbed of the prizes when your turn comes to collect them. One of my earliest experiences in industry was to listen to managers explaining to senior operatives that they were to be deprived of their life-times’ ambitions, because the whole technology of the process was to be changed. That was in the steel industry, in which the skills of a first-hand melter—a job that it took a lifetime to learn—were replaced in a year by clever instrumentation. But ten years later those same managers were themselves confronted by the computer, which would have made many of their skills redundant in turn. However managers have power, and the computer none. It was easier to misuse the computer than to accept the institutional change—because the consequences would have been quite personal.

Now I have come to what I consider to be the explanation of the abuse of science and technology in our society. The power has remained where it resided. The tools of modern men have been disregarded at this level of recursion. And there is none left to say a loud NO to that—until the people themselves say No. So this is why I contend that we are considering a future that can be demanded now.

Every time we hear that a possible solution simply cannot be done, we may be sure on general scientific grounds that it can. Every time we hear that a solution is not economic, we ought to ask: “for whom?”—since it is people, just people, who will have to pay. Every time we hear that a proposal will destroy society as we know it, we should have the courage to say: “Thank God; at last.” And whenever we hear that it will destroy our freedom, we should be very cautious indeed. For such freedom as we have is our most treasured possession, and we know how to be vigilant. Yet for that very reason, this is the simplest method that the powerful have to cling to power: to convince people that any other concession of that power would be unsafe.

But I would like to stop philosophizing to you about all this, at the expense of introducing another technical term. We have not had a new one for a couple of lectures, and I hope that the very few that I have introduced make a useful vocabulary. We are by now used to the notion that institutions are not just entities, with certain characteristics. They are instead dynamic viable systems, and their characteristics are in fact outputs of their organizational behaviour. The variety that is pumped into them is absorbed by regulating variety, through an arrangement of amplifiers and attenuators. A system that, through this kind of exercise in requisite variety, achieves stability against all perturbations, is called a homeostat.

A homeostat can resist perturbation, not only against expected disruption, but against unexpected disruption too. For this reason it is not only stable, but ultrastable. Whatever happens to it—provided that its relaxation time is sufficiently short—it will not go into oscillation, and still less will it explode in catastrophic instability. The sign of this homeostasis, now so deficient in our major institutions (and perhaps, as I said earlier, even in ourselves) is that critical outputs of the system are held steady.

Why produce this extra terminology at this late stage? It is because I want to answer the question about resistance to change in a very precise way. All homeostatic systems hold a critical output at a steady level. But some of them have a very special extra feature. It is that the output they hold steady is their own organization. Hence every response that they make, every adaptation that they embody in themselves, and every evolutionary manoeuvre that they spawn, is directed to survival. So this special trick rather well defines the nature of life itself. It also rather well explains why we cannot change our institutions very easily. Their systemic organization is directed, not primarily to our welfare, but to their own survival.

At this point we need to draw a very careful distinction. Institutions are supposed to be homeostatic. They have been driven away from this behaviour by getting their relaxation times out of phase with explosive change. That was the argument. Yet buried inside the institution is a nucleus which retains its homeostasis by ignoring not only external change but the primary function of the institution itself. This nucleus is the special kind of homeostat that produces itself. And it is this nucleus that I call the bureaucracy. By this term I am not simply referring to paper-pushing, but to an institution within the institution that exists—narcissus-like—in self-regard.

Bureaucrats assimilate the challenge of explosive change in an essentially bogus fashion. For many years I used to make the joke that they would accept every kind of change, provided it involved no actual alteration. Indeed, I used that very phrase (but not jocularly) in the third lecture. In any case, the joke rebounded. Bureaucracies do accept change; they do this by acknowledging novel conditions. They are not so stupid as to pretend that such conditions have not occurred. But what changes they make are superficial, and they are made so that organization—which is what makes the system the system that it is and no other—is completely preserved.
Thus there is no actual alteration, although appearances may have been changed a great deal. When this is generally understood, it will no longer be possible to fob people off with unreal changes, masquerading as real alterations. Until then, our institutions will go on producing the social benefits of their activities simply as by-products of their major bureaucratic undertaking, which is to produce themselves.

According to the analysis of centralization and decentralization with which we began, it is clear that there should be a major devolution of power. I think it should be open to a community to organize its social services (education, health, welfare) exactly as it pleases, and to accept or reject the initiatives of local innovators. I think that goes for the local branches of national undertakings, public and private, also. I think that workers should in general be free to organize their own work, and that students (up to the age of death) should be free to organize their own studies.

The first barrier to doing any of these things is the absence of money. It is always assumed that because everything has been centralized, and because the centre makes facilities available, then a community wishing to do “its own thing” is opting out of the official plan. It may (or may not) grudgingly be allowed to do so, but it will have to finance itself. Yet the finances that have been raised at the centre are raised on behalf of the parts. It is perfectly clear that this is a monstrous infringement of liberty. The question however is not so much “how do they get away with it?”—because I continue with the hypothesis that everyone is well intentioned. The real question is “How did the system degenerate to this unviable form?”

We have done enough cybernetic thinking about dynamic viable systems by now to draw the distinction that is required to answer this question. In order to maintain viability, the total system must have a central regulatory model. This model ought to be created by democratic consultation, but we cannot dodge the truth that it will constrain variety in the parts. Put neutrally like that, all remains well: for it is essential that variety be attenuated in any case, and it is essential that services which become economic only at the total-system recursive level should be made available. But the vital distinction comes here. The precise form of variety attenuation is a matter for local decision.

The critical mistake we are making is to take the variety attenuating decisions—at the wrong level of recursion. Then this is how freedom is lost, and this is what induces the instability that threatens to become catastrophic. For the whole-system model simply does not have requisite variety to balance the local homeostats. They in their turn are robbed of the variety they need to find their own stable points.

With this insight it is possible to redesign any of our institutional systems. In my own experience of trying to do this, two major barriers to progress always appear. The first is that of bureaucracy. Bureaucracies build around any centralized system in order to administer its centrality. In decentralizing, the need for the bureaucracy disappears. But we are already in the trap. Bureaucracies exist, and are powerful: this is obvious enough. What is less obvious is the argument I used just now: they have themselves become viable systems that produce themselves. Now, a parasitic growth depends on its host’s continued existence it is true; but the parasite may flourish at the host’s expense.

There are two lines of approach to evaluating the facts, and you may try both on any institution you like. The first is to count heads. How many people employed are, by these definitions, of the bureaucracy? Official statistics are not collected in a form which will answer that question, either nationally or within corporations. One has to do the measuring oneself, and often it is necessary to divide an individual’s use of time between his work for the host and his work for the parasite. There is a lot of room here for self-deception. The answer is often as high as one-third, and rising. Then we need not be surprised that the bureaucracy has taken on a life of its own. The second line of approach is to examine the forms in which the bureaucracy produces itself.

For example, how much of the concern shown by the bureaucracy inside health, education, and welfare is for patients, students, and the deprived, and how much for the cybernetic machinery by which the medical, teaching, and social professions produce themselves? People are entitled to ask those questions. In asking them, they should realize that the need to maintain standards is a serious need—and also an impregnable excuse.

People are further entitled to ask whether there are not other ways of maintaining standards than by having bureaucracies. Of course there are. The trouble is that they would rely heavily on responsibility—on responsibility for one’s own acts, on responsibility for one’s own colleagues. As we have already seen, this morality is not favoured; it is “unfair”. Besides it leaves people unprotected. Far better, then, to have a bureaucracy, which is amoral, than to depend on the morality of real human beings. How do you find yourself reacting to that? For me, it is indefensible.

Then our analysis leads to this clear conclusion. If institutions really are to be changed, then their fundamental organization really must be altered; and a major component of that alteration will be to dismantle the bureaucracy. Changes which do not dismantle the bureaucracy are unreal; they do not lead to alteration, but to the adaptation of the bureaucracy in continuing to produce itself.
You may notice that I have always said that a system of this kind produces itself, and not that it reproduces itself, which sounds much more natural. The reproduction follows, which is bad, but it is not the central point. To have the aim to produce itself is the mark of a system that cannot be dismantled without a death. When we funk the assassination, we may yet ensure much change—but the system lives on unaltered. So it has become with our societary institutions.

A little time ago I said that there were two barriers to progress, and that the first is bureaucracy. The second is the availability of money. But I have dealt with this question before, and need only summarize my answers now. Essentially, the costs associated with major projects are unreal.

- Point One: they usually represent not the actual costs, but the availability of funds.
- Point Two: the availability of funds is divided into arbitrary time epochs, which match the requirements of accountancy and not the needs of the people.
- Point Three: the people are paying for the projects anyway, one way or another, but this fact is disguised from them.
- Point Four: there is as yet no way in which the people can decide on which projects their money should be spent.
- Point Five: there is no reason why spending money according to the wishes of the people should cost more than to spend it according to the wishes of the bureaucracy, provided that the central regulatory model has been democratically composed, and is properly understood.
- Point Six: and this is new: the cost of many new societary projects could be met from savings made by dismantling the bureaucracy.

So: I am hoping that we may approach the final lecture of this series in the following state of mind. The human being is limited by his finite brain from assimilating all possible information, and from recognizing all possible patterns of the world. He is limited by his own finite resources from doing whatever he likes, and by the finite resources of the planet from demanding an endless growth in material prosperity, for all men. Indeed the pursuit of his own material prosperity, though possible, is not something that the affluent part of the world can any longer maintain as a good, unless it is explicitly willing to declare that it will be done at the expense of the less fortunate.

Then the concept of freedom is not meaningful for any person except within measurable variety constraints: and the extent to which we have lost freedom is due to loss of control over the variety attenuators—education, publishing—and to the centralization of power at the wrong levels of recursion. This freedom could be reclaimed, using the new scientific tools at our disposal, but only if new democratic machinery is established to replace existing bureaucracies. As long as these remain cybernetically organized so as to produce themselves, our societary institutions remain set on courses that lead to catastrophic instability.

NOTES IN SUPPORT OF THE FIFTH LECTURE

For a viable system, the classic dichotomy between centralization and decentralization draws a useless distinction. Viable systems, which include institutions, require a complicated blend of central and peripheral regulatory information.

There is only one kind of information; but

- the way it is gathered and collated,
- the channels it uses,
- the filters it passes through,
- how much is remembered,
- the levels at which it provokes action,

— all these are distinct.

Studies in Neurocybernetics are especially helpful to the management scientist in designing institutional systems.
Some systems adapt to change in a stable way

— but only to such changes as they were actually designed to accept.

Most engineering systems are of the kind; and if a change affects them that the designer did not foresee, they succumb.

A homeostat holds its critical variables within the limits permitted by its own physiology, whether the form of the change affecting its performance was foreseen or not. Homeostasis is a natural property of living systems, which has been copied by cyberneticians to make institutional systems ultrastable.
Here is a drawing of an institution:

![Institution Diagram]

This drawing looks like an organism, living in its environment, and interacting with it. We may hope that this is a homeostatic system.

The circle labelled B looks like the nucleus of that cell, which ought to be directing these homeostatic operations. But it is not.

B stands for Bureaucracy, and that is self-regarding.

Bureaucracy is not concerned, as it should be, and as the cell nucleus would be, with directing the homeostatic operations, but with **producing itself**.

Because the institution is a viable system, it is at *this* level of recursion that the organism should be producing itself. How can it, if its nucleus is dysfunctional?

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The new word for a homeostatic system whose major concern is to produce itself (that is, to hold constant its own organization) has been given by the man who first penetrated this phenomenon. He is Humberto Maturana, and he calls this kind of system *autopoietic*—which is the pure Greek for “making itself”. His definitive book is not yet published.
6. The Free Man in the Cybernetic World

The continuous process of liberating our minds from the programs implanted in our brains is a prerequisite of personal evolution. We can embark on that process of liberation only by constantly and consciously testing the ways in which our personal variety has been and is being constrained by the very things we tend to hold most dear.

But freedom is not pure anarchy. We are not free if we are dumped in the middle of the Sahara desert, despite the absence of walls and bars on the non-existent windows. We are free when the doors of our intellectual suite of rooms are unlocked, and we walk outside to breathe some new and fresher air. But we still need maps.

The message of hope I have to deliver is that this is a possible manoeuvre, not only for individuals—many of whom listening to me now will have discovered these things for themselves, but for society itself. And here many people are not so optimistic as I find myself to be, because the task looks too great for them. As I said at the very beginning of these talks, a lot of people feel trapped.

But I would like to make sure that you hear the following words, which form a conclusion drawn from his own cybernetic analysis of the societal condition by Sir Geoffrey Vickers. He says: “The trap is a function of the nature of the trapped.” Then I should go on to say that the failed society that I have depicted to you is not a malevolent society, not a cunning trap—for I agree with Vickers that the “trappiness” of the trap lies in our own nature. It may be nearer the mark to speak of a Dinosaur society.

By this epithet I mean to say that the trouble with our institutions is in their loss of the ability to respond in time, to learn in time, to adapt and to evolve. Like the dinosaurs, they cease to be viable systems. I have tried very hard to lay bare the mechanisms that appear to me to lead to this disaster, because I think they can well be understood. What we understand we can control.

“Control”: there goes that word again. I can only hope that by now you will know how I am using it. When I say that any system is “in control”, I mean that it is ultrastable: capable of adapting smoothly to unpredicted change. It has within its structure a proper deployment of requisite variety.

Just now I said: but we shall still need maps. The societary maps we need are in my view the cybernetic maps that I have tried to set forth. And so you see why I have called this series Designing Freedom. The contradiction built into this title is the figure of speech called oxymoron. The freedom we embrace must yet be “in control”. That means that people must endorse the regulatory model at the heart of the viable system in which they partake, at every level of recursion.

Hitherto this could be done by underwriting a constitution, or by declaring a belief in something called the democratic process. But things have changed. Constitutions, written or unwritten, turn out not to have requisite variety in a world gone crazy with its own proliferation of variety. And if the democratic process does not seize upon and use those disregarded tools of modern man, it will not itself be viable much longer.

Then all of this becomes an appeal for scientific efficiency, which belongs to the word “designing”, as providing a regulatory model to give requisite variety to human joy and fun, which belong to the word “freedom”.

The clash and conflict of these conceptions produce in all of us, and not least me, a dissonance. The idea jars, like any oxymoron. Then let us speedily reconnoitre this trap—which is a function of the nature of the trapped.

There are two things wrong with the role of science in our society. One is its use as a tool of power, wherever that is concentrated by economic forces. The other is its elite image. None of us wishes to be manipulated by power; and if science is the tool of power, to hell with it. None of us wishes to entrust our liberty to a man in a white laboratory coat, armed with a computer and a row of ball-point pens in his pocket, if he does not share in our humanity.

The contrasting argument is just this (and I have used a lot of willpower in holding back the argument until this final lecture). Civilization is being dragged down by its own inefficiency. We cannot feed the starving; we cannot stop war; we are in a terrible muddle with education, transportation, the care of the sick and the old; institutions are failing, and often we feel unsafe in the streets of our own cities. All this is inefficient. Then it cannot be correct to say that the only way to preserve liberty is to be so damned inefficient that freedom is not even threatened.

We have to become efficient in order to solve our problems; and we have to accept the threat to freedom that this entails—and handle it. Everything that man can do contains implicit threats. This is something written into the law of requisite variety, as far as I can see. Then we have to be knowledgeable, and we have to be untrapped.

We have to find a way by which to turn science over to the people. If we can do that, the problem of elitism disappears. For surely I do not have to convince you that the man in the white laboratory coat is human after all, and would rather use his computer to serve you than to blow the world apart? Then for God’s sake (I use the phrase with care) let us create a societary system in which this kind of service is made even possible for him, before it is too late. At the moment, the scientist himself is trapped by the way in which society employs him.
What proportion of our scientists are employed in death rather than life, in exploitation rather than liberation? I tell you: most of them. But that is not their free choice. It is an output of a dynamic system having a particular organization. Remember the waves.

And so my first conclusion to these lectures is: efficiency does not entail tyranny—if we can get the system right. To do so is a top priority, because some version of efficiency is required to save our dinosaur society.

The next point I would like to tackle also involves an oxymoron: you could call it “unpredictive prophecy”. It would not surprise me if I sounded like a prophet, or (to use a hideous neologism) a futurologist. Let me rid myself of any such pretension; because I do not believe that we can predict the future. I believe instead that we can describe the present with perspicuity, if we use the proper instruments, and that this same present constrains future variety. This is not the same thing and I will take a few minutes to explain.

If I were to offer you a cigarette, what would happen? You might take it, or decline it. You might deliver a eulogy about the excellence of tobacco; you might read me a lecture about lung cancer. If you are a director of a tobacco company, you might insist on giving me your packet. If you are the chairman of an anti-smoking lobby, you might punch me on the nose. For all I know, you might execute a war dance—and we could offer a prize for the best explanation as to why you might. The future, in short, is unpredictable, because there is too much variety in the air. It is called freedom.

On the other hand, I may have a model of you, I may have found out how you are, and have a very good idea of what you will do. This fact does not constrain your freedom; it constrains the variety of my model of how you use it. If this distinction had been understood some time back in history, there would have been less confusion in what used to be very popular discussions of free will.

Then let us extend the analysis to planning. If I set out to catch the 8:32 train tomorrow, then maybe you will find me on it. It would be absurd to say that if I were a free man I might just as well be at home in bed, or flying the Atlantic. Planning is a variety attenuator. What is planned tends to come about—but often rather shakily, so that perhaps we make a loss when the whole idea was to make a profit. If so, variety has sneaked back in again, when we thought we had rid ourselves of it. In either case, the act of planning does not rob us of free will.

Then why has planning such a bad reputation? For it has. People talk about “the planners” in a very pejorative tone of voice. The reason surely is that our plans are not adaptive, and the institutions charged with making them grind on with their implementation long after it has become obvious to everyone who will be affected that the plans are inappropriate. We are back to the unviability of the institution again. Institutions are stuck with their ponderous machinery, while the newspapers reflect the public rage….

Planning should be continuous and adaptive. Societal plans should continuously abort, and be recast, before they give birth to a monster. If this is true, there is no need to base them on the predictions that no-one can correctly make in any case, but only on the analysis of an unfolding situation in which every decision constrains future variety. In that statement the unpopular notion of planning is turned on its head, and deserves to become popular again. Because it means that the future is something we use our freedom to determine, rather than something that is lurking out there, and will happen to us, unless we are mighty smart. We can make, rather than prophesy, the future.

As to variety sneaking back in again, we can keep an eye on that. Again, this is hardly forecasting. It is an analysis of current patterns of variety, so as to assess the probabilities that a system will next move to one state (indicated by a representative point) rather than another. This process has no bearing on the problem of freedom either: it is simply quantified business acumen. Science can do something about that, through operational research. But I must add that I always laugh when I hear a businessman or a politician talk about “a calculated risk”, because this invariably means that he is taking a risk that he cannot calculate.

Then let me sum up my next key points, not as predictions at all—and therefore not as doom-laden—but as analyses which indicate firstly where things are wrong and secondly how they could be put right.

Civilization operates through a set of institutions with a particular organization. This organization appears to be an anachronism. It worked well enough in a more leisurely age; but now its relaxation times no longer match the rate of perturbation. Therefore these systems are actually designed to have unstable outputs. There is evidence that the outputs really are unstable, a fact which tends to confirm the hypothesis; and there is no cybernetic regulation in the design to stop the instability feeding on itself to the point of catastrophe.

Then we can see what to do. We cannot grab hold of explosive variables and drag them down to earth again. If we get tough, and also expensive, and reinforce the whole machinery (which is what we tend to do) we stand to lose our freedom. Moreover, and absurdly enough, this approach simply makes the machinery heading for catastrophe more efficiently catastrophic. What we do is to redesign the system itself, so that its outputs are no longer unstable.
To do this we need much faster communications inside the machinery, and these are readily available. It means using telecommunications properly, in high-variety, real-time, broad-band circuits available to all. To be available to all, they may very well need to be free of charge—like the air and the view, on which our humanity and survival also depend. I see this large expenditure as quite proportional to the threat we have to meet, and far less absurd than equivalent expenditures on which we needlessly but cheerfully embark, and which it would be embarrassing to list.

Next we need to use the computer properly inside this network; not as a device to make silly mistakes, not as a calculator to do cheap sums expensively, and not as an invigilator of the people’s free expression of themselves. Those proscriptions would knock out ninety-five per cent of current applications, and free computer power so that people could engage in their personal evolution—by guiding their own learning, and editing their own input.

Very likely computer power should be free of charge as well. Let us note that it becomes increasingly expensive to monitor charges for high-variety services. Each consumer absorbs these to a different degree and in a different pattern—and it all has to be logged. If a toll-road is opened, so that the cost of building the road may be met by the toll, we shall need an organization of requisite variety to monitor the use of the road; and we may find that all of that costs more than the toll is raising. If that can happen in a relatively low-variety system, the situation is far more ridiculous in the high-variety systems that I adumbrate.

So we should beware of precedents in these matters. There is hallowed machinery built into all our institutions which knows how things are paid for from the public purse. Well, maybe all that too is out of date. If I lived in an isolated prairie community, and discovered that no-one in the capital was taking the question of my isolation seriously, so that my telecommunication circuits and computer power would have to be paid for as a function of my distance from the city, I would form a local committee and propose to charge the city dweller on his holاض 정액; not as a device to make silly mistakes, not as a calculator to do cheap sums expensively, and not as an invigilator of the people’s free expression of themselves. Those proscriptions would knock out ninety-five per cent of current applications, and free computer power so that people could engage in their personal evolution—by guiding their own learning, and editing their own input.

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Given all this technology, we need new institutions for handling it; which brings me to summarize what I have said about freedom. So many people seem to think that such freedom as is our natural right will be imperilled: I say with passion that it is imperilled now, but we are too complaisant to face up to this. We live in too cosy a world. This is not the real world, uncomfortable and discomfiting, where so many people are enslaved and dying; it is a variety-attenuated model of the real world, in which these stark horrors acquire that air of unreality which our television screens know well how to bestow.

Therefore the argument is that something must be done to redesign our institutions, boldly using science in that very cause. Society, in the form of its own institutions, public and private, is making a bold use of science now—not to redesign, but to reinforce itself in what may turn out to be its most oppressive aspects.

Conspicuous consumption is an oppressive cause if it means robbing the Third World. Science is behind this, primarily because of the way telecommunications are used. Not only does television serve the cause of spurious growth; it has become little short of optical imperialism. Please contemplate those plays in which “bandits” are trying to overthrow the rightful king, only to be put down by clean-cut heroes sent in to help by the First World, from the point of view of men and women fighting dangerously for their liberation from a tyrannical dictatorship. I would like to remake one of those plays, using the same cast, from the standpoint of the so-called bandits.

Next I draw attention to computer-driven systems that compile dossiers on the individual, to rob him of his credit and his good name. That is oppression. If multinational companies are allowed to use science on a global scale to exploit the planet’s dwindling finite resources for the benefit of the few in whom the power to do this is concentrated, then that will be oppressive. And if the might of military science is used, or even threatened to be used, against the democratic choice of any nation, then that is oppression indeed. This last example, unlike all the others, is not new; but if we are going to pour so much science into that oppressive purpose, at least let us use science in the service of freedom too.

All the oppressive uses of science that I have mentioned are in full deployment now. So science is not a neutral thing, as many scientists themselves try to believe. As for the public, I sometimes think they just hope that all this power implanted in our institutions will not hurt them, if they are quiet as mice. But the mouse trap is loaded with cheese, called growing prosperity, conspicuous consumption; and the destructive force stored in the wound-up spring is the economic power that underwrites technocracy. Then we can lose our freedom ... snap!

The intuition that this could be the case is there all right. It is built into that alienation of which I have spo-
ken. But alienation leads to impotent rage, perhaps to violence; it is an excess of human variety that is blocked off, and is explosive; alienation of itself does not lead to new constructions. Nor are we led to new constructions simply by dismantling the bureaucracies, although I have advocated this. Besides, how does one do it?

Requisite variety for running the world does not exist in any man’s headful of ten thousand million badly programmed neurons. Requisite variety for running things properly exists with the people who generate the world’s variety in the first place, and that means everyone. Whoever opts out of his or her regulatory role is robbing the total system of its power to be stable. Therefore it is not for me to specify the content of the total regulatory model, but only to point to the need for it. But if this stricture applies to me, it also applies to you. The requisite variety for being messianic belongs only to the genuine Messiah.

I suggest that the first thing to note is that most of us have done what I just said we should not do: we have robbed society of regulatory variety by our passivity. The occasional democratic exercise of a vote is not a big enough variety amplifier; and besides many of the most thoughtful people I know have given up voting anyway. This is on the grounds that to choose between alternatives to which one is indifferent does not increase regulatory variety at all. Then people will need to abandon their cynicism, and become active.

Their accepted course is to get into societary institutions and to try to change them. Again, many thoughtful people have given that up—because they perceive the effort as a losing battle. And if the analysis I offered of bureaucracy is correct, they are probably right; especially if the relaxation time hypothesis is correct as well. The only conclusion that I am able to draw is that we must start again. If that is not to result in anarchy, then the institutions themselves (including of course government) must take a hand.

That would sound like the kiss of death, to any good revolutionary. But I persist in that other hypothesis: that institutions, including government, operate with good intentions, in good conscience. If you and I have understood the problems, why not they?

Then suppose that groups of people draw together to consider the problems of society, and what kind of society they want. I cannot tell you the content of their deliberations. But the regulatory model will have to do with the control of variety attenuators and the provision of variety amplifiers, at various levels of recursion; and it will have to do with the way in which science should be harnessed to these ends. I do not think that the problems of acquiring scientific tools are nearly as difficult as they sound, despite the expense. The greater problem is the alienation from science that has already set in, and needs to be reversed. For I should be quite content if these groups of which I speak considered my views about the need for science to be quite wrong, so that they decided on a craft culture if they reckoned it would work, but only if they had free minds about it. Knowledge is a human possession, and that includes science—which is only ordered knowledge.

Science makes bold use of experiment: I mean the crucial experiment—something that may fail, and thereby falsify a theory. In attempting social advance, we work in an evolutionary fashion, testing the route with a toe all the way. Now of course I believe that this is much too slow. We do not have that much time. I advocate the bold experiment, but on condition that it is recognized to be just that. For here is a key thought: we can very well afford to pay ourselves for being wrong. To be wrong slashes variety; one thing the scientist knows full well is that, in experiments, it is just about as useful to be wrong as to be right. Both outcomes attenuate variety, until the search homes onto the answer that we seek.

So I would say that it would pay to set up experimental institutions, deliberately antithetic to the existing ones—and with their full support. The objection is immediate and clear. Just who, and just whose children, would be the guinea pigs? I tell you that the answer to this is a great many volunteers, for they could have the safeguards. They would design those, like the experiments, themselves. The reason why I feel so sure about this, is that so many people are doing it already—without any permission, without any safeguards, and also without any call on funds to which I reckon they are entitled. For this is liberation.

The rest of the design is simple. If science can do whatever can be exactly specified, and if people really do start specifying, then they will need recourse to science. It needs only a tiny team, and no bureaucracy of any kind, to make the links. The levels of recursion must be got right. But it could easily be done. One team for every province, one in Ottawa—and that not to tell anybody anything at all, but to co-ordinate the efforts, to communicate (by videotape, of course) the results.

But I have said enough. It is not for me to project my own imaginings upon the world, although it seems legitimate to try to release untapped and perhaps frustrated variety. These things cannot be forced, but perhaps they can be freed.

Why freed, you ask? Why do they not happen of their own accord, if they are good? The answer lies, I think, in mass effect. Because to use science is expensive, the little group—however fervent—finds science difficult to command. When the movement is general, however, the cost is shared and becomes manageable. This is the rea-
son for my little teams. And who should pay for those? Come, well-intentioned institutions, in good conscience: If one of your staff has a natural place in such a team (and his or her election by the social group would be a genuine honour), why not let go? Second the person: you have much to gain. And it is you, after all, you institutional man, who has tied up this person (perhaps he is yourself)—with the high salary and the fringe benefits you pay—and robbed him of mobility. Could you not make this gesture to freedom, and indeed survival?

But when I speak of mass effect, I could point to no more potent an example than that of a country, acting through its democratically elected government, that turns its whole self into an experimental society—and of course, I am citing Chile once again. In the third lecture I discussed a system designed for economic regulation; but this was an almost incidental feature of the Chilean Experiment. That began with agrarian and industrial reform, with making food and clothes available to the poor, and continued in a surge of enthusiasm for what even the main opposition party would refer to calmly as the Chilean Process. It was the middle class who had to pay for this: they knew it, and pulled a wry face. But they were mostly well-intentioned people in good conscience, and mostly they behaved decorously. I knew many who voted for Allende. They made up jokes about the shortages and queues, and carried on.

In the two years of my own work in Chile, I witnessed several attempts to pull the government down: one very serious attempt was made in October 1972. To this, which produced high stress and great difficulties, the Chilean people responded the following March by turning out to the polls and increasing Allende’s vote by an amazing seven per cent. But he was still a minority government, a fact which tied his hands; and now he looked as though he might succeed. It was time to halt the great experiment.

As I see it, the rich world would not allow a poor country to use its freedom to design its freedom. The rich world cut off vital supplies—except for the armaments that eventually reduced La Moneda to a smoking shell. The rich world cut off vital credit, so that there was no hard currency—except for the illegal flows of it that financed the contrived paralysis of the distribution system to justify the coup.

Then let us not say, as we hear said, that Allende reduced his country to chaos, and destroyed the economy. A system of world forces acting upon Chile reduced his economy to chaos, and destroyed him. Allende understood that his country was losing its freedom in the oppressive grip of that external system, and went and said as much to the United Nations. The free world, as it likes to call itself, heard what he said, and waited until his own prophetic words were fulfilled: “They will only drag me out of La Moneda in wooden pajamas.” At that point it offered muted protests, and set about recognizing the military junta.

Thus is freedom lost; not by accident, but as the output of a system designed to curb liberty. My message is that we must redesign that system, to produce freedom as an output. If we are inefficient about that, on the grounds that scientific efficiency threatens liberty, then the institutional machinery that acts in our name will fail to prevent the spread of tyranny, war, torture, and oppression. We speak of the growth of prosperity; but the growth of those four things throughout the world today is yet more real.

Let us use love and compassion. Let us use joy. Let us use knowledge. These qualities are in us, obscured though we may let them be by the lethal strategies of our dinosaur society. And let us use that acquired and ordered knowledge: science. This too is in our heritage. If it has been seized by power, then seize it back. Expect it of statesmen and politicians who represent us that they should, on our behalf; or demand a new breed of statesmen and politicians. Expect it of educators that they should change the institutions of education not to train crazy apes; or start new schools and universities instead.

Above all, let us all expect it of each other that we find ways to use the power of science in better cause. It is no more sensible to say that we cannot, because ordinary folk do not understand science, as it would be to say we cannot sail a boat, because we cannot understand the wind and the sea and the tide-race.

Men have always navigated those unfathomable waters. We can do it now.

Ontology of Observing:
The Biological Foundations of Self-Consciousness and of The Physical Domain of Existence

Humberto R. Maturana
(1988)

Note: Footnote definitions added by Arun Chandra

1. Purpose

My purpose in this essay is to explain cognition as a biological phenomenon, and to show, in the process, how language arises and gives origin to self consciousness, revealing the ontological foundations of the physical domain of existence as a limiting cognitive domain. In order to do this I shall start from two unavoidable experiential conditions that are at the same time my problems and my explanatory instruments, namely: a) that cognition, as is apparent in the fact that any alteration of the biology of our nervous system alters our cognitive capacities, is a biological phenomenon that must be explained as such; and b) that we, as is apparent in this very same essay, exist as human beings in language using language for our explanations. These two experiential conditions are my starting point because I must be in them in any explanatory attempt; they are my problems because I choose to explain them, and they are my unavoidable instruments because I must use cognition and language in order to explain cognition and language.

In other words, I propose not to take cognition and language as given unexplainable properties, but to take them as phenomena of our human domain of experiences that arise in the praxis of our living, and that as such deserve explanation as biological phenomena. At the same time, it is my purpose to use our condition of existing in language to show how the physical domain of existence arises in language as a cognitive domain. That is, I intend to show that the observer and observing, as biological phenomena, are ontologically primary with respect to the object and the physical domain of existence.¹

2. The problem

I shall take cognition as the fundamental problem, and I shall explain language in the process of explaining cognition.

We human beings assess cognition in any domain by specifying the domain with a question and demanding adequate behavior or adequate action in that domain. If what we observe as an answer satisfies us as adequate behavior or as adequate action in the domain specified by the question, we accept it as an expression of cognition in that domain, and claim that he or she who answers our query knows. Thus, if some one claims to know algebra — that is, to be an algebraist — we demand of him or her to perform in the domain of what we consider algebra to be, and if according to us she or he performs adequately in that domain, we accept the claim. If the question asked is not answered with what we consider to be adequate behavior or adequate action in the domain that it specifies, the being asked to perform (the algebraist) disintegrates or disappears, it loses its class identity as an entity existing in the operational domain specified by the question, and the questioner proceeds henceforth according to its nonexistence. In these circumstances, since adequate behavior (or adequate action) is the only criterion that we have and can use to assess cognition, I shall take adequate behavior or adequate action in any domain specified by a question, as the phenomenon to be explained when explaining cognition.

3. Nature of the answer

I am a biologist, and it is from my experience as a biologist that in this essay I am treating the phenomenon of cognition as a biological phenomenon. Furthermore, since as a biologist I am a scientist, it is as scientist that I shall provide a biological explanation of the phenomenon of cognition. In order to do this: a) I shall make explicit

¹ontology: The science or study of being; that branch of metaphysics concerned with the nature or essence of being or existence.

praxis, n.: Action, practice. a. The practice or exercise of a technical subject or art, as distinct from the theory of it; b. Habitual action, accepted practice, custom.
what I shall consider as an adequate behavior in the context of what I consider is a scientific explanation (section 4), so that all the implications of my explanation may be apparent to the reader and she or he may know when it is attained; b) I shall make explicit my epistemological standing with respect to the notion of objectivity (section 5), so that the ontological status of my explanation may be apparent; c) I shall make explicit the notions that I shall use in my explanation by showing how they belong to our daily life (section 6), so that it may be apparent how we are involved as human beings in the explanation that I shall provide; and d) I shall make explicit the nature of the biological phenomena involved in my explanations (section 7), so that it may be apparent how we are involved as living system in the explanation as well as in the phenomenon of cognition itself. Finally, in the process of explaining the phenomenon of cognition as a biological phenomenon I shall show how it is that scientific theories arise as free creations of the human mind, how it is that they explain human experience and not an independent objective world, and how does the physical domain of existence arise in the explanation of the praxis of living of the observer as a feature of the ontology of observing (sections 8 to 11).

4. The scientific domain

4.0 Praxis of Living and Explanations

We find ourselves as human beings here and now in the praxis of living, in the happening of being human, in language language, in an a priori experiential situation in which everything that is, everything that happens, is and happens in us as part of our praxis of living. In these circumstances, whatever we say about how anything happens takes place in the praxis of our living as a comment, as a reflexion, as a reformulation, in short, as an explanation of the praxis of our living, and as such it does not replace or constitute the praxis of living that it purports to explain. Thus, to say that we are made of matter, or to say that we are ideas in the mind of God, are both explanations of that which we live as our experience of being, yet neither matter nor ideas in the mind of God constitute the experience of being that which they are supposed to explain. Explanations take place operationally in a meta-domain with respect to that which they explain. Furthermore, in daily life, in the actual dynamics of human interactions, an explanation is always an answer to a question about the origin of a given phenomenon, and is accepted or rejected by a listener who accepts or rejects it according to whether or not it satisfies a particular implicit or explicit criterion of acceptability that he or she specifies. Therefore, there are as many different kinds of explanations as there are different criteria of acceptability of reformulation of the happening of living of the observers that the observers specify. Accordingly, every domain of explanations as it is defined by a particular criterion of acceptability, constitutes a closed cognitive domain as a domain of acceptable statements of actions for the observers that accept that criterion of acceptability. Science, modern science, as a cognitive domain is not an exception to this. Indeed, modern science is that particular cognitive domain that takes what is called the scientific explanation as the criterion of validation (acceptability) of the statements that pertain to it. Let me make this explicit.

4.1 Scientific explanations

Scientists usually do not reflect upon the constitutive conditions of science. Yet, it is possible to abstract, from what modern scientists do, an operational (and, hence, experiential) specification of what constitutes a scientific explanation as the criterion of validation of what they claim are their scientific statements. Furthermore, it is possible to describe this criterion of validation of scientific statements as a reformulation of what is usually called the scientific method.

A. Different domains of human activities entail different intentions. Thus, as the intention of doing art is to generate an aesthetic experience, and the intention of doing technology is to produce, the intention of doing science is to explain. It is, therefore, in the context of explaining that the criterion of validation of a scientific explanation is the conjoined satisfaction in the praxis of living of an observer, of four operational conditions, one of which, the proposition of an ad hoc mechanism that generates the phenomenon explained as a phenomenon to be witnessed by the observer in his or her praxis of living, is the scientific explanation. And, it is in the context of explaining that it must be understood that the scientific explanation is the criterion of validation of scientific statements. Finally, it is also in the context of explaining that it must be recognized that a modern scientific community of observers (henceforth called standard observers) that use the scientific explanation as the criterion of validation of their statements. Now, the criterion of validation of scientific explanations entails four operational conditions:

1. The specification of the phenomenon to be explained through the stipulation of the operations that a standard observer must perform in his or her

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2. epistemology: The theory or science of the method or grounds of knowledge.
3. ad hoc: To use ad hoc measures or contrivances, to improvise.
praxis of living in order to also be a witness of it in his or her praxis of living.

2. The proposition, in the domain of operational coherences of the praxis of living of a standard observer, of a mechanism, a generative mechanism, which when allowed to operate gives rise as a consequence of its operation to the phenomenon to be explained, to be witnessed by the observer also in his or her praxis of living. This generative mechanism, that is usually called the explanatory hypothesis, takes place in the praxis of living of the observer in a different phenomenal domain than the phenomenal domain in which the phenomenon to be explained is witnessed, and the latter as a consequence of the former stands in an operational meta-domain with respect to it. Indeed, the phenomenon to be explained and its generative mechanism take place in different non-intersecting phenomenal domains in the praxis of living of the observer.

3. The deduction, that is, the computation, in the domain of operational coherences of the praxis of living of the standard observer entailed by the generative mechanism proposed in (b), of other phenomena that the standard observer should be able to witness in his or her domain of experiences as a result of the operation of such operational coherences, and the stipulation of the operations that he or she should perform in order to do so.

4. The actual witnessing, in his or her domain of experiences, of the phenomena deduced in (c) by the standard observer who actually performs in his or her praxis of living the operations stipulated also in (c).

If these four operational conditions are conjointly satisfied in the praxis of living of the standard observer, the generative mechanism proposed in (b) becomes a scientific explanation of the phenomenon brought forth in (a). These four operational conditions in the praxis of living of the observer constitute the criterion of validation of scientific explanations, and science (modern science) is a domain of statements directly or indirectly validated by scientific explanations. Accordingly, it follows that there are no such things as scientific observations, scientific hypotheses or scientific predictions: there are only scientific explanations and scientific statements. It also follows that the standard observer can make scientific statements in any domain of his or her praxis of living in which he or she can make scientific explanations.

B. According to A a scientific statement is valid as a scientific statement only within the community of standard observers that is defined as such because they can realize and accept the scientific explanation as the criterion of validation of their statements. This makes scientific statements consensual statements, and the community of standard observers a scientific community. That in principle any human being can belong to the scientific community is due to two facts of experiences: one is that it is as a living human being that an observer can realize and accept the scientific explanation as the criterion of validation of his or her statements and become a standard observer, the other is that the criterion of validation of scientific statements is the operational criterion of validation of actions and statements in daily life, even if it is not used with the same care in order to avoid confusion of phenomenal domains. Indeed, these two experiential facts constitute the fundament for the claim of universality that scientists make for their statements, but what is peculiar to scientists is that they are careful to avoid confusion of phenomenal domains when applying the criterion of validation of scientific statements in the praxis of living.

C. Scientists and philosophers of science usually believe that the operational effectiveness of science and technology reveals an objective independent reality, and that scientific statements reveal the features of an independent universe, of an objective world. Or, in other words, many scientists and philosophers of science believe that without the independent existence of an objective reality, science could not take place. Yet, if one does, as I have done above, a constitutive, an ontological, analysis of the criterion of validation of scientific statements, one can see that scientific explanations do not require the assumption of objectivity because scientific explanations do not explain an independent objective reality. Scientific explanations explain the praxis of living of the observer, and they do so with the operational coherences brought forth by the observer in his or her praxis of living. It is this fact that gives science its biological foundations and that makes science a cognitive domain bound to the biology of the observer with characteristics that are determined by the ontology of observing.

4.2 Science

In conclusion, the operational description of what constitutes a scientific explanation as the criterion of validation of scientific statements, reveals the following characteristics of scientific statements in general, and of science as a domain of scientific statements in particular:

A. Scientific statements are consensual statements valid only within the community of standard observers that generates them; and science as the domain of scientific statements does not need an objective independent real-
ity, nor does it reveal one. Therefore, the operational effectiveness of science as a cognitive domain rests only on the operational coherence that takes place in the praxis of living of the standard observers that generate it as a particular domain of consensual coordinations of actions in the praxis of their living together as a scientific community. Science is not a manner of revealing an independent reality. It is a manner of bringing forth a particular one bound to the conditions that constitute the observer as a human being.

B. Since the members of a community of standard observers can generate scientific statements in any phenomenal domain of the praxis of living in which they can apply the criterion of validation of scientific statements, the universality of a particular body of scientific statements within the human domain will depend on the universality in the human domain of the standard observers that can generate such a body of scientific statements. Finally, scientific statements are valid only as long as the scientific explanations that support them are valid, and these are valid only as long as the four operational conditions must be conjointly satisfied in their constitution are satisfied for all the phenomena that are deduced in the praxis of living of the standard observers in the domain of operational coherences specified by the proposed generative mechanism.

C. It is frequently said that scientific explanations are reductionist propositions, adducing that they consist in expressing the phenomena to be explained in more basic terms. This view is inadequate. Scientific explanations are constitutively non-reductionist explanations because they consist in generative propositions and not in expressing the phenomena of one domain in phenomena of another. This is so because in a scientific explanation the phenomenon explained must arise as a result of the operation of the generative mechanism, and cannot be part of it. In fact, if the latter were the case the explanatory proposition would be constitutionally inadequate and would have to be rejected. The phenomenon explained and the phenomena proper to the generative mechanism constitutively pertain to non-intersecting phenomenal domains.

D. The generative mechanism in a scientific explanation is brought forth by a standard observer from his or her domain of experience in his or her praxis of living as an ad hoc proposition that in principle requires no justification. Therefore, the components of the generative mechanism, as well as the phenomena proper to their operation, have a foundational character with respect to the phenomena to be explained, and as such their validity is in principle accepted a priori. Accordingly, every scientific domain as a domain of scientific statements is founded on basic experiential premises not justified in it, and constitutes in the praxis of living of the standard observer a domain of operational coherences brought forth in the operational coherences entailed in the generative mechanisms of the scientific explanations that validate it.

5. Objectivity in parenthesis

5.0 Illusion and Perception: the traditional approach

If one looks at the two shadows of an object that simultaneously partially intercepts the path of two different lights, one white and one red, and if one has trichromatic vision, then one sees that the area of the shadow from the white light that receives red light looks red, and that the area of the shadow from the red light that receives white light looks blue-green. This experience is compelling and unavoidable, even if one knows that the area of the shadow from the red light should look white or gray because it receives only white light. If one asks how it is that one sees blue-green where there is white light only, one is told by a reliable authority that the experience of the blue-green shadow is a chromatic illusion because there is no blue-green shadow to justify it as a perception. We live numerous experiences in our daily life that we class like this as illusions or hallucinations and not as perceptions, claiming that they do not constitute the capture of an independent reality because we can disqualify them by resorting to the opinion of a friend whose authority we accept, or by relying upon a different sensory experience that we consider as a more acceptable perceptual criterion. In the experience itself, however, we cannot distinguish between what we call an illusion, hallucination or a perception: illusion, hallucination, and perception are experientially indistinguishable. It is only through the use of a different experience as a meta-experiential authoritative criterion of distinction, either of the same observer or of somebody else subject to similar restrictions, that such a distinction is socially made. Our incapacity to experientially distinguish between what we socially call illusion, hallucina-

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4conjoint. a.: United, combined. Belonging to, or constituted by, two or more in combination.
5adduce. v.: To bring forward (verbally) for consideration, to cite, to allege.
6a priori. advb. (and adj.): 1. A phrase used to characterize reasoning or arguing from causes to effects, from abstract notions to their conditions or consequences, from propositions or assumed axioms (and not from experience); deductive; deductively. 2. Hence loosely: Previous to any special examination, presumptively, in accordance with one’s previous knowledge or prepossessions.
7trichromatic. a.: Having or relating to the three fundamental color-sensations (red, green, violet) of normal vision.

Ontology of Observing
tion or perception, is constitutive in us as living systems, and is not a limitation of our present state of knowledge. The recognition of this circumstances should lead us to put a question mark on any perceptual certainty.

5.1 An invitation

The word “perception” comes from the Latin expression *per capire* which means “through capture”, and carries with it the implicit understanding that to perceive is to capture the features of a world independent of the observer. This view associates objectivity, and, hence, the possibility of knowing a world independent of the observer, as the ontological condition on which the distinction between illusion, hallucination and perception that it entails is based. Therefore, to question the operational validity in the biological domain of the distinction between illusion, hallucination and perception, is to question the ontological validity of the notion of objectivity in the explanation of the phenomenon of cognition. But, how then to proceed? Any reflexion or comment about how the praxis of living comes about is an explanation, a reformulation of what takes place. If this reformulation does not question the properties of the observer, if it takes for granted cognition and language, then it must assume the independent existence of what is known. If this reformulation questions the properties of the observer, if it asks about how cognition and language arise, then it must accept the experiential indistinguishability between illusion, hallucination and perception, and take as constitutive that existence is dependent on the biology of the observer. Most philosophical traditions pertain to the first case assuming the independent existence of something, such as matter, energy, ideas, God, mind, spirit, . . . or reality. I invite the reader to follow the second, and to take seriously the constitutive condition of the biological condition of the observer, following all the consequences that this constitutive condition entails.

5.2 Objectivity in parenthesis

The assumption of objectivity is not needed for the generation of a scientific explanation. Therefore, in the process of being a scientist explaining cognition as a biological phenomenon I shall proceed without using the notion of objectivity to validate what I say: that is, *I shall put objectivity in parenthesis*. In other words, I shall go on using an object language because this is the only language that we have (and can have), but although I shall use the experience of being in language as my starting point while I use language to explain cognition and language, *I shall not claim* that what I say is valid because there is an independent objective reality that validates it. I shall speak as a biologist, and as such I shall use the criterion of validation of scientific statements to validate what I say, accepting that everything that takes place is brought forth by the observer in his or her praxis of living as a primary experiential condition, and that any explanation is secondary.

5.3 The universum versus the multiversa

The assumption of objectivity, objectivity without parenthesis, entails the assumption that existence is independent of the observer, that there is an independent domain of existence, the *universum*, that is the ultimate reference for the validation of any explanation. With objectivity without parenthesis, things, entities, exist with independency of the observer that distinguishes them, and it is the independent existence of things (entities, ideas) that specifies the truth. Objectivity without parenthesis entails unity, and, in the long run, reductionism, because it entails reality as a single ultimate domain defined by independent existence. He or she who has access to reality is necessarily right in any dispute, and those who do not have such access are necessarily wrong. In the universum coexistence demands obedience to knowledge. Contrary to all this, objectivity with parenthesis entails accepting that existence is brought forth by the distinctions of the observer, that there are as many domains of existence as kinds of distinctions the observer performs: objectivity in parenthesis entails the *multiversa*, entails that existence is constitutively dependent on the observer, and that there are as many domains of truths as domains of existence she or he brings forth in her or his distinctions. At the same time, objectivity in parenthesis entails that different domains of existence constitutively do not intersect because they are brought forth by different kinds of operations of distinction, and, therefore, it constitutively negates phenomenal reductionism. Finally, under objectivity in parenthesis each versum of the multiversa is equally valid if not equally pleasant to be part of, and disagreements between observers, when they arise not from trivial logical mistakes within the same versum but from the observers standing in different versa, will have to be solved not by claiming a privileged access to an independent reality, but through the generation of a common versum through coexistence in mutual acceptance. In the multiversa coexistence demands consensus, that is, common knowledge.

6. Basic notions

Everything said is said by an observer to another observer that could be him or herself. Since this condition is my experiential starting point in the praxis of living as well as my problem, I shall make explicit some of the
notions that I shall use as my tools for explaining the phenomena of cognition and language, and I shall do so by revealing the actions in the praxis of living that they entail in our daily life when we do science. Indeed, by revealing what we do as observers I am making explicit the ontology of the observer as a constitutive human condition.

6.1 The observer

An observer is, in general, any being operating in language, or in particular, any human being, in the understanding that language defines humanity. In our individual experience as human beings we find ourselves in language, we do not see ourselves growing into it: we are already observers by being in language when we begin as observers to reflect upon language and the condition of being observers. In other words, whatever takes place in the praxis of living of the observer takes place as distinctions in language through languaging, and this is all that he or she can do as such. One of my tasks is to show how the observer arises.

6.2 Unities

The basic operation that an observer performs in the praxis of living is the operation of distinction. In the operation of distinction an observer brings forth a unity (an entity, a whole) as well as the medium in which it is distinguished, and entails in this latter all the operational coherences that make the distinction of the unity possible in his or her praxis of living.

6.3 Simple and composite unities

An observer may distinguish in the praxis of living two kinds of unities, simple and composite unities. A simple unity is a unity brought forth in an operation of distinction that constitutes it as a whole by specifying its properties as a collection of dimensions of interactions in the medium in which it is distinguished. Therefore, a simple unity is exclusively and completely characterized by the properties through which it is brought forth in the praxis of living of the observer that distinguishes it, and no further explanation is needed for the origin of these properties. A simple unity arises defined and characterized by a collection of properties as a matter of distinction in the praxis of living of the observer.

A composite unity is a unity distinguished as a simple unity that through further operations of distinction is decomposed by the observer into components that through their composition would constitute the original simple unity in the domain in which it is distinguished. A composite unity, therefore, is operationally distinguished as a simple unity in a meta-domain with respect to the domain in which its components are distinguished because it results as such from an operation of composition. As a result, the components of a composite unity and its correlated simple unity are in a constitutive relation of mutual specification. Thus, the properties of a composite unity distinguished as a simple one entail the properties of a composite unity distinguished as a simple one entail the properties of the components that constitute it as such, and conversely, the properties of the components of a composite unity and their manner of composition determine the properties that characterize it as a simple unity when distinguished as such. Accordingly, there is no such thing as the distinction of a component independently of the unity that it integrates, nor can a simple unity distinguished as a composite one be decomposed into an arbitrary set of components disposed in an arbitrary manner of composition. Indeed, there is no such thing as a free component floating around independently of the composite unity that it integrates. Therefore, whenever we say that we treat a simple unity as a composite one, and we claim that we do so by distinguishing in it elements that when put together do not regenerate the original unity, we in fact are not decomposing the unity that we believe that we are decomposing but another one, and the elements that we distinguish are not components of the composite unity that we say that they compose.

6.4 Organization and structure

A particular composite unity is characterized by the components and relations between components that constitute it as a composite unity that can be distinguished, in a meta-domain with respect to its components, as a particular simple unity of a certain kind. As such, a particular composite unity has both organization and structure. These can be characterized as follows:

a) The relations between components in a composite unity that make it a composite unity of a particular kind, specifying its class identity as simple unity in a meta-domain with respect to its components, constitutes its organization. In other words, the organization of a composite unity is the configuration of static or dynamic relations between its components that specifies its class identity as a composite unity that can be distinguished as a simple unity of a particular kind. Therefore, if the organization of a composite unity changes, the composite unity loses its class identity, that is, it disintegrates. The organization of a composite unity is necessarily an invariant while it conserves its class identity, and vice versa, the class identity of a composite unity is necessarily an invariant while the composite unity conserves its
organization.

b) In a composite unity, be this static or dynamic, the actual components plus the actual relations that take place between them while realizing it as a particular composite unity characterized by a particular organization, constitute its structure. In other words, the structure of a particular composite unity is the manner in which it is actually made by actual static or dynamic components and relations in a particular space, and a particular composite unity conserves its class identity only as long as its structure realizes in it the organization that defines its class identity. Therefore, in any particular composite unity the configuration of relations between components that constitutes its organization must be realized in its structure as a subset of all the actual relations that hold between its components as actual entities interacting in the composition.

It follows from all this, that the characterization of the organization of a composite unity as a configuration of relations between components says nothing about the characteristics or properties of these components other than that they must satisfy the relations of the organization of the composite unity through their interactions in its composition. It also follows that the structure of a composite unity can change without it losing its class identity if the configuration of relations that constitutes its organization is conserved through such structural changes. At the same time, it also follows that if the organization of a composite unity is not conserved through its structural changes, the composite unity loses its class identity, it disintegrates, and something else appears in its stead. Therefore, a dynamic composite unity is a composite unity in continuous structural change with conservation of organization.

6.5 Structure determined systems

Since the structure of a composite unity consists in its components and their relations, any change in a composite unity consists in a structural change, and arises in it at every instant necessarily determined by its structure at that instant through the operation of the properties of its components. Furthermore, the structural changes that a composite unity undergoes as a result of an interaction are also determined by the structure of the composite unity, and this is so because such structural changes take place in the interplay of the properties of the components of the composite unity as they are involved in its composition. Therefore, an external agent that interacts with a composite unity only triggers in it a structural change that it does not determine. Since this is a constitutive condition for composite unities, nothing external to them can specify what happens in them; there are no instructive interactions for composite unities. Finally, and as a result of this latter condition, the structure of a composite unity also determines with which structural configuration of the medium it may interact. In general, then, everything that happens in a composite unity is a structural change, and every structural change occurs in a composite unity determined at every instant by its structure at that instant. This is so both for static and for dynamic composite unities, and the only difference between these is that dynamic composite unities are in a continuous structural change generated as part of their structural constitution in the context of their interactions, while static ones are not. It follows from all this that composite unities are structure determined systems in the sense that everything that happens in them is determined by their structure. This can be systematically expressed by saying that the structure of a composite unity determines in it at every instant:

a) the domain of all the structural changes that it may undergo with conservation of organization (class identity) and adaptation at that instant; I call this domain the instantaneous domain of the possible changes of state of the composite unity.

b) the domain of all the structural changes that it may undergo with loss of organization and adaptation at that instant; I call this domain the instantaneous domain of the possible disintegrations of the composite unity.

c) the domain of all the different structural configurations of the medium that it admits at that instant in interactions that trigger in it changes of state; I call this domain the instantaneous domain of the possible perturbations of the composite unity.

d) the domain of all the different structural configurations of the medium that it admits at that instant in interactions that trigger in it its disintegration; I call this domain the instantaneous domain of the possible destructive interactions of the composite unity.

These four domains of structural determinism that characterize every structure determined system at every instant are obviously not fixed, and they change as the structure of the structure determined systems changes in the flow of its own internal structural dynamics or as a result of its interactions. These general characteristics of structure determined systems have several additional consequences of which I shall mention six. The first is that during the ontogeny of a structure determined system, its four domains of structural determinism change following a course contingent\(^8\) to its interactions and its

\(^{8}\text{contingent, a.: That does not exist of itself, but in dependence on something else. Dependent for its occurrence or character on or upon some prior occurrence or condition.}\)
own internal structural dynamics. The second is that some structure determined systems have recurrent domains of structural determinism because they have recurrent structural configurations, while others do not because their structure changes in a non-recurrent manner. The third is that although the structure of a structure determined system determines the structural configurations of the medium with which it may interact, all its interactions arise as coincidences with independent systems, and these coincidental interactions cannot be predicted from the structure of the structure determined system alone. The fourth is that a composite unity exists only while it moves through the medium in interactions that are perturbations, and that it disintegrates at the first destructive interaction. The fifth is that since the medium cannot specify what happens in a structure determined system because it only triggers the structural changes that occur in the system as a result of the system’s interactions, all that can happen to a composite unity in relation to its interactions in the medium, is that the course followed by its structural changes is contingent to the sequence of these interactions. Finally, the sixth is that since mechanistic systems are structure determined systems, and since scientific explanations entail the proposition of mechanistic systems as the systems that generate the phenomena to be explained, in scientific explanations we deal, and we can only deal, with structure determined systems.

### 6.6 Existence

By putting objectivity in parenthesis we accept that constitutively we cannot claim the independent existence of things (entities, unities, ideas, etc.), and we recognize that a unity exists only in its distinction, that is, in the praxis of living of the observer that brings it forth. But we also recognize that the distinction takes place in the praxis of living of the observer in an operation that specifies simultaneously the class identity of the unity distinguished, either as a simple unity or as a composite one, and its domain of existence as the domain of the operational coherences in which its distinction makes sense also as a feature of his or her praxis of living. Since the class identity of a composite unity is defined by its organization, and since this can be realized in a composite unity only while it interacts in a domain of perturbations, existence in a composite unity entails the conservation of its organization as well as the conservation of its operational structural correspondence in the domain of operational coherences in which it is distinguished. Similarly, since the class identity of a simple unity is defined by its properties, and since these are defined in relation to the operational domain in which the simple unity is distinguished, existence in a simple unity entails the conservation of the properties that define it and the operational structural correspondence in which these properties are realized.

### 6.7 Structural coupling or adaptation

I call structural coupling or adaptation the relation of dynamic structural correspondence with the medium in which a unity conserves its class identity (organization in the case of a composite unity, and operation of its properties in the case of a simple one), and which is entailed in its distinction as it is brought forth by the observer in his or her praxis of living. Therefore, conservation of class identity and conservation of adaptation are constitutive conditions of existence for any unity (entity, system, whole, etc.) in the domain of existence in which it is brought forth by the observer in his or her praxis of living. As constitutive conditions of existence for any unity, conservation of class identity and conservation of adaptation are paired conditions of existence that entail each other so that if one is lost the other is lost, and the unity exists no more. When this happens, a composite unity disintegrates and a simple unity disappears.

### 6.8 Domain of existence

The operation of distinction that brings forth and specifies a unity, also brings forth and specifies its domain of existence as the domain of the operational coherences entailed by the operation of the properties through which the unity is characterized in its distinction. In other words, the domain of existence of a simple unity is the domain of operational validity of the properties that define it as such, and the domain of existence of a composite unity is the domain of operational validity of the properties of the components that constitute it. Furthermore, the constitutive operational coherences of a domain of existence as the domain of operational validity of the properties of the entities that define it, entails all that such validity requires. Accordingly, a simple unity exists in a single domain of existence specified by its properties, and a composite unity exists in two — in the domain of existence specified by its properties as it is distinguished as a simple unity, and in the domain of existence specified by the properties of its components as it is distinguished as a composite unity. The entailment in the distinction of a unity of its domain of existence as the domain of all the operational coherences in the praxis of living of the observer in which it conserves class identity and adaptation, is a constitutive condition of existence of
every unity. A unity cannot exist outside its domain of existence, and if we imagine a unity outside its domain of existence, the unity that we imagine exists in a different domain than the unity that we claim that we imagine.

6.9 Determinism

To say that a system is deterministic is to say that it operates according to the operational coherences of its domain of existence. And this is so because due to our constitutive inability to experientially distinguish between what we socially call perception and illusion, we cannot make any claim about an objective reality. This we acknowledge by putting objectivity in parenthesis. In other words, to say that a system is deterministic is to say that all its changes are structural changes that arise in it through the operation of the properties of its components in the interactions that these realize in its composition, and not through instructive processes in which an external agent specifies what happens in it. Accordingly, an operation or distinction that brings forth a simple unity brings forth its domain of existence as the domain of operational applicability of its properties, and constitutes the simple unity and its domain of existence as a deterministic system. At the same time, the operation of distinction that brings forth a composite unity brings forth its domain of existence as a domain of determinism in terms of the operational applicability of the properties that characterize its components, in the praxis of living of the observer. Accordingly, the operation of distinction that brings forth a composite unity brings forth the composite unity as well as its domain of existence as deterministic systems in the corresponding domains of operational coherences of the praxis of living of the observer.

6.10 Space

The distinction of a unity brings forth its domain of existence as a space of distinctions whose dimensions are specified by the properties of the unities whose distinctions entail it as a domain of operational coherences in the praxis of living of the observer. Thus, a simple unity exists and operates in a space specified by its properties, and a composite unity exists and operates in a space specified by its properties as a simple unity if distinguished as such, and in a space specified by the properties of its components if distinguished as a composite one. Accordingly, as a simple unity exists and operates in a single space, a composite unity exists and operates in two. Finally, it follows that without the distinction of a unity there is no space, and that the notion of a unity out of space, as well as the notion of an empty space, are nonsensical. A space is a domain of distinctions.

6.11 Interactions

Two simple unities interact when they, as a result of the interplay of their properties, and in a manner determined by such interplay, change their relative position in a common space or domain of distinctions. A composite unity interacts when some of its components as a result of their interactions as simple unities with other simple unities that are not its components, change their manner of composing it, such that it undergoes a structural change. It follows that a simple unity interacts in a single space that its properties define, and that a composite unity interacts in two, in the space defined by its properties as simple unity, and in the space that its components define through their properties, also as simple unities, as they constitute its structure.

6.12 Phenomenal domains

A space is constituted in the praxis of living of the observer when he or she performs a distinction. The constitution of a space brings forth a phenomenal domain as the domain of distinctions of the relations and interactions of the unities that the observer distinguishes as populating that space. A simple unity operates in a single phenomenal domain, the phenomenal domain constituted through the operation of its properties as a simple unity. A composite unity operates in two phenomenal domains, the phenomenal domain constituted through the operation of its properties as a simple unity, and the phenomenal domain constituted through the operation of the properties of its components, which is where its composition takes place. Furthermore, the two phenomenal domains in which a composite unity operates do not intersect and cannot be reduced one to the other because there is a generative relation between them. The phenomenal domain in which a composite unity operates as simple unity is secondary to the composition of the composite unity, and constitutes a meta-phenomenal domain with respect to the phenomenal domain in which the composition takes place. Due to this circumstance a composite unity cannot participate as a simple unity in its own composition.

6.13 Medium, niche and environment

I call the medium of a unity the containing background of distinctions, including all that is not involved in its structure if it is a composite one, with respect to which an observer distinguishes it in his or her praxis of living, and in which it realizes its domain of existence. The medium includes both that part of the background that is distinguished by the observer as surrounding the unity, and that part of the background the observer conceives
as interacting with it, and which it obscures in its operation in structural coupling (in its domain of existence). I call this latter part of the medium operationally defined moment by moment in its encounter with the medium in structural coupling, the *niche* of the unity. Accordingly, a unity continuously realizes and specifies its niche by actually operating in its domain of perturbations while conserving adaptation in the medium. As a consequence, the niche of a unity is not a fixed part of the medium in which a unity is distinguished, nor does it exist with independency of the unity that specifies it; it changes as the domain of interactions of the unity changes (if it is a composite one) in its dynamics of structural change (see part 6.3, page 117). In these circumstances an observer can distinguish the niche of a unity, regardless of whether it is simple or composite, only by using the unity as an indicator of it. Finally, I call the *environment* of a unity all that an observer distinguishes as surrounding it. In other words, while the niche is that part of the medium that a unity encounters (interacts with) in its operation in structural coupling, and obscures with its presence from the view of the observer, the environment is that part of the medium that an observer sees around a unity. Thus, a dynamic composite unity (like a living system), as it is distinguished in the praxis of living of the observer, is seen by this in an environment as an entity with a changing niche that it specifies while it slides through the medium in continuous structural change with conservation of class identity and adaptation. A composite unity in the medium is like a tight rope walker that moves on a rope in gravitational field, and conserves its balance (adaptation) while its shape (structure) changes in a manner congruent with the visual and gravitational interactions that it undergoes as it walks (realizing its niche), and falls when this stops being the case.

### 7. Basis for the answer: the living system

The answer to the question of cognition requires now that we reflect upon the constitution and operation of living systems, and that we make some additional epistemological and ontological considerations about the conditions that our understanding of living systems must satisfy.

#### 7.1 Science deals only with structure determined systems

To the extent that a scientific explanation entails the proposition of a structure determined system as the mechanism that generates the phenomenon to be explained, we as scientists can deal only with structure determined systems, and we cannot handle systems that change in a manner specified by the external agents that impinge upon them. Accordingly, whatever I say about living systems will be said in the understanding that all the phenomena to which they give rise arise through their operation as structure determined systems in a domain of existence also brought forth as a structure determined system by the observer’s distinction.

### 7.2 Regulation and control

As was indicated in section 6.12 (page 120) the distinction of a composite unity entails the distinction in the praxis of living of the observer of two phenomenal domains that do not intersect because the operation of a composite unity as a simple one is secondary to its composition. As a result, the whole cannot operate as its own component, and a component cannot operate in place of the whole that it integrates. In these circumstances, notions of control or regulation do not connote actual operations in the composition of a composite unity, because such operations take place only in the realization in the present of the properties of the composite unity’s components in their actual interactions. Notions of regulation and control only connote relations taking place in a descriptive domain as the observer relates mappings in language of his or her distinctions of a whole and its components in his or her praxis of living.

### 7.3 Living systems are structure determined system

In order to explain the phenomenon of cognition as a biological phenomenon, I must treat living systems as structure determined systems. I consider that to do so is legitimate for several reasons. I shall mention three. The first is an operational one: we know as a feature of our praxis of living that any structural change in a living system results in a change in its characteristics and properties, and that similar structural changes in different members of the same species result in similar changes in their characteristics and properties. The second is an epistemological one: if we do not treat living systems as structure determined systems we cannot provide scientific explanations for the phenomena proper to them. The third is an ontological one: the only systems that we can explain scientifically are structure determined systems, therefore, if I provide a scientific explanation of the phenomenon of cognition in living systems, I provide a proof that living systems are structure determined systems in our praxis of living as standard observers, which is where we dis-
7.4 Determinism and prediction

The fact that a structure determined system is deterministic does not mean that an observer should be able to predict the course of its structural changes. Determinism and predictability pertain to different operational domains in the praxis of living of the observer. Determinism is a feature that characterizes a system in terms of the operational coherences that constitute it, and its domain of existence, as it is brought forth in the operations of distinction of the observer. Accordingly, there are as many different domains of determinism as domains of different operational coherences the observer brings forth in her or his domain of experience. At difference with this, a prediction is a computation that an observer makes of the structural changes of a structure determined system as she or he follows the consequence of the operation of the properties of the components of the system in the realization of the domain of determinism that these properties constitute. As such, a prediction can only take place after the observer has completely described the system as a structure determined system in terms of the operational coherences that constitute it in his or her domain of experiences. Therefore, the success or failure of a prediction only reflect the ability or inability of an observer to not confuse phenomenal domains in his or her praxis of living, and to indeed make the computation that constitutes the prediction in the phenomenal domain where he or she claims to make it. In these circumstances, there are two occasions in which an observer who does not confuse phenomenal domains in dealing with a structure determined system will not be able to predict its structural changes.

One occasion is when an observer knows that she or he is dealing with a structure determined system by virtue of experience, in the praxis of living, with its components, but cannot encompass it in his or her descriptions, and, thus, cannot effectively treat it as such in its domain of existence and compute its changes of state. The other occasion is when an observer in his or her praxis of living aims at characterizing the present unknown state of a system assumed to be structure determined, by interacting with some of its components. By doing this the observer triggers in the system an unpredictable change of state that he or she then uses to characterize its initial state and predict in it a later one within the domain of determinism specified by the properties of its components. Therefore, since the domain of determinism of a structure determined system as the domain of operational coherences of its components is brought forth in its distinction in the praxis of living of the observer, and since in order to compute a change of state in a system the observer must determine its present state through an interaction with its components, any attempt to compute a change of state in a structure determined system entails a necessary uncertainty due to the manner of determination of its initial state within the constraints of the operational coherences of its domain of existence. This predictive uncertainty may vary in magnitude in different domains of distinctions, but it is always present because it is constitutive of the phenomenon of cognition as a feature of the ontology of observing and not of an objective independent reality. With this I am also saying that the uncertainty principle of physics pertains to the ontology of observing, and that it does not characterize an independent universe because, as I shall show further on, the physical domain of existence is a cognitive domain brought forth in the praxis of living of the observer by the observer as an explanation of his or her praxis of living.

7.5 Ontogenic structural drift

It is said that a boat is drifting when it slides floating on the sea without rudder and oars, following a course that is generated moment after moment in its encounter with the waves and wind that impinge upon it, and which lasts as long as it remains floating (conserves adaptation) and keeps the shape of a boat (conserves organization). As such a drifting boat follows a course without alternatives that is deterministically generated moment after moment in its encounters with the waves and the wind. As a consequence of this, a drifting boat is also always, and at any moment, in the only place where it can be, in a present that is continuously emerging from the sequence of its interactions in the drift. The deterministic process that generates the course followed by a drifting boat takes place as a feature of the structural dynamics of the structure determined system constituted by the boat, the wind, and the waves, as these are brought forth by the observer in his or her praxis of living. Therefore, if an observer cannot predict the course of a drifting boat, it is not because his or her distinction of the boat, the wind, and the waves, in his or her domain of experiences, does not entail a structure determined system in which the course followed by the boat arises in a deterministic manner, but because he or she cannot encompass in his or her description of the interactions between the boat, the wind, and the waves, the whole structure of the structure determined system in which the course followed by the boat is a feature of its changes of structure.

What happens with the generation of the course followed by a drifting boat, is the general case for the generation of the course followed by the structural changes of any structure determined system that the observer distinguishes in his or her praxis of living, as it interacts in the
medium as if with an independent entity with conservation of class identity (organization) and adaptation (structural coupling). Since living systems are dynamic structure determined systems, this applies to them, and the ontogeny of a living system, as its history of structural changes with conservation of organization and adaptation, is its ontogenic structural drift. All that applies to the course followed by a drifting boat applies to the course followed by the structural changes that take place in the ontogeny of a living system and to the course followed by the displacement of a living system in the medium during its ontogeny. Let me make this clear. In general terms, a drift is the course followed by the structural changes of a structure determined system that arises moment after moment[,] generated in the interactions of the system with another independent system, while its relation of correspondence (adaptation) with this other system (medium) and its organization (class identity) remain invariant. Accordingly the individual life history of a living system as a history of continuous structural changes that follows a course generated moment after moment in the braiding of its internally generated structural dynamics with the structural changes triggered in it by its recurrent interactions with the medium as an independent entity, and which lasts as long as its organization and adaptation are conserved, takes place as a structural drift. Similarly, since the course of the displacement of a living system in the medium is generated moment after moment as a result of its interactions with the medium as an independent entity while its organization and adaptation are conserved, the displacement of a living system in the medium while it realizes its niche takes place as a drift. Living systems exist in continuous structural and positional drift (ontogenic drift) while they are alive, as a matter of constitution.

As in the case of a drifting boat, at any moment a living system is where it is in the medium, and has the structure that it has, as the present of its ontogenic drift in a deterministic manner, and could not be anywhere other than where it is, nor could it have a structure different from the one that it has. The many different paths that an observer may consider possible for a drifting boat to follow at any instant, or the many different ontogenic courses that an observer may consider for a living system at any moment, are possible only as imagined alternatives in the description of what would happen in each case if the conditions were different, and not actual alternatives in the course of the boat or in the ontogeny of the living system. A drift is a process of change, and as in the case with all processes of change in structure determined systems, it follows a course without alternatives in the domain of determinism in which it is brought forth by the distinctions of the observer. Indeed, such imagined alternatives are imaginable only from the perspective of the inability of the observer to treat the boat, the wind, and the waves, (or the living system and the medium that he or she brings forth in his or her praxis of living) as a known structure determined system whose changes of structure he or she can compute. If we are serious about our explanations as scientists, then we must accept as an ontological feature of what we do as observers that every entity that we bring forth in our distinctions is where it is, and has the structure that it has, in the only manner that it can be, given the domain of operational coherences (domain of determinism) that we also bring forth as its domain of existence in its distinction.

Finally, let me mention several implications of all this for the entities that we bring forth as living systems in our praxis of living: a) Since for a living system a history of interactions without disintegration can only be a history of perturbations, that is, a history of interactions in the niche, a living system while living necessarily slides in ontogenic drift through the medium in the realization of its niche. This means that aim, goal, purpose or intention, do not enter into the realization of a living system as a structure determined system. b) Since the structure of a living system is continuously changing, both through its internal dynamics and through the structural changes triggered in it in its interactions with operationally independent entities, the niche of a living system (the feature of the medium that it actually encounters in its interactions) is necessarily in continuous change congruent with the continuous structural drift of the living system while it remains alive. Furthermore, this is so regardless of whether the observer considers that the environment of the living system changes or remains constant. This means that as an observer brings forth a living system in her or his praxis of living, it may appear to her or him as continuously changing in its use of a constant environment, or, conversely, as unchanging in a continuously changing environment, because the observer cannot see the encounter of a living system and its niche, which is where conservation of adaptation takes place. c) Conservation of adaptation does not mean that the manner of living of a living system remains invariant. It means that a living system has an ontogeny only while it conserves its class identity and its dynamic structural correspondence with the medium as it undergoes its interactions, and that there is no constitutive restriction about the magnitude of its moment after moment structural changes other than that they should take place within the constraints of its structural determinism and its conservation of organization and adaptation. Indeed, I could speak of the laws of conservation of organization and adaptation as ontological conditions for the existence of any structure determined system in the same manner as physicists speak of
the laws of conservation in physics as ontological conditions for the occurrence of physical phenomena.

Every living system, including us observers, is at any moment where it is, has the structure that it has, and does what it does at that moment, always in a structural and relational situation that is the present of an ontogenic drift that starts at its inception as such in a particular place with a particular structure, and follows the only course that it can follow. Different kinds of living systems differ in the spectrum of ontogenies that an observer can consider possible for each of them in his or her discourse as a result of their different initial structures and different starting places, but each ontology that takes place takes place as a unique ontogenic drift in a process without alternatives.

7.6 Structural intersection

When an observer brings forth a composite unity in his or her praxis of living, he or she brings forth an entity in which the configuration of relations between components that constitute its organization, is a subset of all the actual relations that take place between its components as these realize its structure and constitute it as a whole in the domain of existence in which they are brought forth (see section 6.4, page 117). As such, the organization of a composite unity does not exhaust the relations and interactions in which the components that realize it may participate in their domain of existence. The result of this circumstance is that in the structural realization of a composite unity, its components may participate, through other properties than those that involve them in the realization of its organization, in the realization of the organization of many other composite unities which, thus, intersect structurally with it. Furthermore, when the components of a composite unity are themselves composite unities, the composite unity may participate in structural intersections that take place through the components of its components. In any case, when an observer distinguishes two or more structurally intersecting systems, he or she distinguishes two or more different composite unities realized through the same body.

Structurally intersecting systems exist and operate as simple unities in different phenomenal domains specified by their different organizations. Yet, depending on how their structural intersection takes place, structurally intersecting composite unities may exist as such in the same or different domains of existence. Thus, when two composite unities structurally intersect through their components, they share components and have as composite unities the same domain of existence. But, when two composite unities structurally intersect through the components of the components of one or both, they do not share components and as composite unities have different domains of existence. Nevertheless, since in a structural intersection there are components or components of components, or both, that simultaneously participate in the structure of several systems, structural changes that take place in one of several structurally intersecting systems as part of its ontogenic drift may give rise to structural changes in the other intersecting systems and thus participate in their otherwise independent ontogenic drifts. In other words, structurally intersecting systems are structurally interdependent because, either through the intersection of their domains of structural determinism, or through the intersection of the domains of structural determinism of their components, or through both, they affect each other’s structure in the course of their independently generated structural changes, and although they may exist as composite unities in different domains their ontogenic drifts intersect forming a network of co-ontogenic drifts. Thus, an observer may distinguish in the structural realization of a human being as a living system the simultaneous or successive intersection of a mammal, a person, a woman, a doctor, and a mother, all of which are different composite unities defined by different organizations that are simultaneously or successively conserved while they are realized in their different domains of existence, with particular characteristics that result from the continuous braiding of their different ontogenic drift through the continuous interplay of their structural changes. Furthermore, these structural intersections result in dependent domains of disintegrations as well as dependent domains of conservations which need not be reciprocal, when the conservation of one class identity entails the conservation of structural features that are involved in the conservation of another. For example, in the structural intersection of a student and a human being in a living system, the conservation of the class identity entails the conservation of the class identity “human being”, but not the reverse: the disintegration of the student does not entail the disintegration of the human being, but the disintegration of the human being carries with it the disintegration of the student. Also, a particular composite unity may disintegrate through different kinds of structural changes, like disintegrating as a student through failing an examination or through attaining the final degree, with different consequences in the network of structural intersections to which it belongs.

The structural intersection of systems does not mean that the same system is viewed in different manners from different perspectives, because due to their different organizations structurally intersecting systems exist in different phenomenal domains and are realized through different structural dynamics. It only means that the elements that realize a particular composite unity as its
components through some of their properties as simple unities, participate through other of their properties as simple unities as components of other unities that exist as legitimately different ones because they have different domains of disintegrations. The interactions and relations in which the components of a system participate through dimensions other than those through which they constitute it, I call orthogonal interactions and relations, and it is through these that structurally intersecting systems may exist in non-intersecting phenomenal domains and yet have unidirectional or reciprocal relations of structural dependency. Finally, it is also through the orthogonal interactions of their components that structurally independent systems that exist in non-intersecting phenomenal domains may also have co-ontogenic drifts.

7.7 The living system

My Claim

In 1970 I proposed that living systems are dynamic systems constituted as autonomous unities through being closed circular concatenations (closed networks) of molecular productions in which the different kinds of molecules that composed them participated in the production of each other, and in which everything can change except the closed circularity of the concatenation of molecular productions that constitutes them as unities (see Maturana 1970, in Maturana and Varela 1980). In 1973 Francisco Varela and I expanded this characterization of living systems by saying: first, that a composite unity whose organization can be described as a closed network of productions of components that through their interactions constitute the network of productions that produce them and specify its extension by constituting its boundaries in their domain of existence, is an autopoietic system; and second, that a living system is an autopoietic system whose components are molecules. Or, in other words, we proposed that living systems are molecular autopoietic systems and that as such they exist in the molecular space as closed networks of molecular productions that specify their own limits, (see Maturana and Varela 1973, in Maturana and Varela 1980; and Maturana 1975). Nothing is said in this description of the molecular constitution of living systems as autopoietic systems about thermodynamic constraints, because the realization of living systems as molecular systems entails the satisfaction of such constraints. In fact, the statement that a composite unity exists as such in the domain of existence of its components, implies the satisfaction of the conditions of existence of these components.

The recognition that living systems are molecular autopoietic systems carries with it several implications and consequences of which I shall mention a few:

A. Implications

a) Living systems as autopoietic systems are structure determined systems, and everything that applies to structure determined systems applies to them. In particular this means that everything that occurs in a living system takes place in it in the actual operation of the properties of its components through relations of neighborhood (relations of contiguity) constituted in these very same operations. Accordingly, notions of regulation and control do not and cannot reflect actual operations in the structural realization of a living system because they do not connote actual relations of neighborhood in it. These notions only reveal relations that the observer establishes when he or she compares different moments in the course of transformations in the network of processes that take place in the structural realization of a particular living system. Therefore, the only peculiar thing about living systems as structured determined systems is that they are molecular autopoietic systems.

b) Autopoiesis is a dynamic process that takes place in the ongoing flow of its occurrence and cannot be grasped in a static instantaneous view of distribution of components. Therefore, a living system exists only through the continuous structural transformation entailed in its autopoiesis, and only while this is conserved in the constitution of its ontogeny. This circumstance has two basic results: one is that living systems can be realized through many different changing dynamic structures, the other is that in the generation of lineages through reproduction, living system are constitutively open to continuous phylogenetic structural change.

c) A living system either exists as a dynamic structure determined system in structural coupling in the medium in which it is brought forth by the observer, that is, in a relation of conservation of adaptation through its continuous structural change in the realization of its niche, or it does not exist. Or, in other words, a living system while living is necessarily in a dynamic relation of correspondence with the medium through its operation in its domain of existence, and to live is to glide through a domain of perturbations in an ontogenic drift that takes place through the realization of an ever changing niche.

d) A living system as a structure determined system operates only in the present — that is, it is determined by the structure that it has at any instant in the realization of its autopoiesis in the molecular space — and therefore it is necessarily open to the flow of molecules through it. At the same time, a living system as an autopoietic
system gives rise only to states in autopoiesis; otherwise it disintegrates. Accordingly, living systems are closed systems with respect to their dynamics of states.

B. Consequences

a) To the extent that a living system is a structure determined system, and everything in it takes place through neighborhood relations between its components in the present, notions of purpose and goal that imply that at every instant a later state of a system as a whole operates as part of its structure in the present do not apply to living systems and cannot be used to characterize their operation. A living system may appear to operate as a purposeful or goal-directed system only to an observer who, having seen the ontogeny of other living systems of the same kind in the same circumstances in his or her praxis of living, confuses phenomenal domains by putting the consequences of its operation as a whole among the processes that constitute it.

b) Because they are structure determined systems, for living systems there is no inside or outside in their operation as autopoietic unities; they are in autopoiesis as closed wholes in their dynamics of states, or they disintegrate. At the same time, and for the same reason, living systems do not use or misuse an environment in their operation as autopoietic unities, nor do they commit mistakes in their ontogenic drifts. In fact, a living system in its operation in a medium with conservation of organization and adaptation as befit it as a structure determined system, brings forth its ever changing niche as it realizes itself in its domains of existence, the background of operational coherences which it does not distinguish and with which it does not interact, but which the observer sees as containing it.

c) Living systems necessarily form, through their recurrent interactions with each other as well as with the non-biotic medium, co-ontogenic and co-phylogenetic systems of braided structural drifts that last as long as they conserve their autopoiesis through the conservation of their reciprocal structural couplings. Such is biological evolution. As a result, every living system, including us human beings as observers, is always found in its spontaneous realization in its domain of existence in congruence with a biotic and non-biotic medium. Or, in other words, every living system is at every instant as it is and where it is a node of a network of co-ontogenic drifts that necessarily involves all the entities with which it interacts in the domain in which it is brought forth by the observer in his or her praxis of living. As a consequence, an observer as a living system can only distinguish an entity as a node of the network of co-ontogenic drifts to which it belongs, and where it exists in structural coupling.

d) The only thing peculiar to living systems is that they are autopoietic systems in the molecular space. In these circumstances, a given phenomenon is a biological phenomenon only to the extent that its realization entails the realization of the autopoiesis of at least one autopoietic system in the molecular space.

e) Modern prokaryotic and eukaryotic cells are typical autopoietic systems in the molecular space, and because their autopoiesis is not the result of their being composed by more basic autopoietic subsystems, I call them first order autopoietic systems. I call second order autopoietic systems systems whose autopoiesis is the result of their being composed of more basic autopoietic unities, organisms as multi-cellular systems are such. Yet, organisms may also “be”, and I think that most of them actually are, first order autopoietic systems as closed networks of molecular productions that involve intercellular processes as much as intracellular ones. Accordingly, an organism would exist as such in the structural intersection of a first order autopoietic system with a second order one, both realized through the autopoiesis of the cells that compose the latter. This happened originally with the eukaryotic cell as this arose through the endosymbiosis of prokaryotic ones (Margulis 1981).

f) An organism as a second order autopoietic system is an ectocellular symbiont composed of cells, usually of common origin but not always so, that constitute it through their co-ontogenic drift. An organism as a first order autopoietic system, however, is not composed of cells even though its realization depends on the realization of the autopoiesis of the cells that intersect structurally with it as they constitute it in their ontogenic drift. The first and second order autopoietic systems that intersect structurally in the realization of an organism, exist in different non-intersecting phenomenal domains.

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12 **biotic:** Of animal life; vital. Also, pertaining to, produced, or influenced by living organisms, esp. in their ecological relations.

13 **prokaryotic:** Having no nuclear membrane in its cell; belonging to the group of organisms so characterized, which comprises bacteria and blue-green algae.

14 **eukaryotic:** (of a cell) characterized by a nuclear membrane and organelles; (of an organism) composed of such cells, belonging to the group which includes all higher organisms and some lower ones; or of pertaining to such a cell or organism.

15 **endosymbiosis:**

16 **symbiont:** either of two organisms living in symbiosis; a commensal.

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7.8 Phylogenetic structural drift

Reproduction is a process in which a system gives origin through its fracture to systems characterized by the same organization (class identity) that characterized the original one, but with structures that vary with respect to it (Maturana 1980). A reproductive phylogeny\textsuperscript{17} or lineage, then, is a succession of systems generated through sequential reproductions that conserve a particular organization. Accordingly, each particular reproductive lineage or phylogeny is defined by the particular organization conserved through the sequential reproductions that constitute it. Therefore, a reproductive phylogeny or lineage lasts only as long as the organization that defines it is conserved, regardless of how much the structure that realizes this organization in each successive member of the lineage changes with each reproductive step (see Maturana 1980, and Maturana and Varela 1984).

It follows that a reproductive phylogeny or lineage as a succession of ontogenic drifts, constitutively occurs as a drift of the structures that realize the organization conserved along it. It also follows that each of the reproductive steps that constitute a reproductive phylogeny is the occasion that opens the possibility for a discrete, large or small, change in the course of its structural drift. As such, a reproductive phylogeny or lineage comes to an end through the structural changes of its members. And this occurs either because autopoiesis is lost after the last of them, or because through the conservation of autopoiesis in the offspring of the last of them, a particular set of relations of the drifting structure begins to be conserved through the following sequential reproductions as the organization that defines and starts a new lineage. This has several general implications of which I shall mention only a few:

a) A member of a reproductive phylogeny either stays in structural coupling (conserves adaptation) in its domain of existence until its reproduction, and the phylogeny continues, or it disintegrates before and then the phylogeny ends with it.

b) A living system is a member of the reproductive phylogeny in which it arises only if it conserves through its ontogeny the organization that defines the phylogeny, and continues the phylogeny only if such organization is conserved through its reproduction.

c) Many different reproductive phylogenies can be conserved operationally embedded in each other, forming a system of nested phylogenies, if there is an intersection of the structural realization of the different organizations that define them. When this happens there is always a fundamental reproductive phylogeny whose realization is necessary for the realization of all the others. This has occurred in the evolution of living systems in the form of the phylogenetic drift of a system of branching nested reproductive phylogenies in which the fundamental reproductive phylogeny is that in which autopoiesis is conserved (see Maturana 1980, and Maturana and Varela 1984). Thus, the system of branching phylogenies defined by the conservation of autopoiesis through reproductive cells in eukaryotic organisms, has carried embedded in it, through the structural intersection of their realizations, many staggered nested organizations that characterize the coincident lineages conserved through it. This circumstance we recognize in the many nested taxonomic categories that we distinguish in any organism when we classify it. For example, a human being is, a vertebrate, a mammal, a primate, a Homo, and a Homo sapiens — all different categories corresponding to different systems of partially overlapping phylogenies that are conserved together through the conservation of the human being’s autopoiesis.

d) The ontogenetic drifts of the members of a reproductive phylogeny take place in reciprocal structural coupling with many different, and also continuously changing, living and non-living systems that form part of the medium in which they realize their niches. As a result, every individual ontogeny in living systems follows a course embedded in a system of co-ontogenies that constitutes a network of co-phylogenetic structural drifts. This can be generalized by saying that evolution is constitutively a co-evolution, and that every living system is at any moment where it is, and has the structure that it has, as an expression of the present state of the domain of operational coherences constituted by the network of co-phylogenetic structural drifts to which it belongs. As a result, the operational coherences of every living system at every instant necessarily entail the operational coherences of the whole biosphere.

e) The observer as a living system is not an exception to all that has been said above. Accordingly, an observer can only make distinctions that, as operations in his or her praxis of living, take place as operations within the present state of the domain of operational coherences constituted by the network of co-ontogenetic and co-phylogenetic structural drifts to which he or she belongs.

7.9 Ontogenic possibilities

The ontogeny of every structure determined system starts with an initial structure that is the structure that realizes the system at the beginning of its existence in its inception. In living systems such initial structure is a cellular...
unity that may originate either a) as an single cell or as a small multi-cellular entity through a reproductive fracture from a cellular maternal system whose organization it conserves, or b) as a single cell de novo\textsuperscript{18} from non-cellular elements. In every living system the system’s initial structure constitutes the structural starting point that specifies in it what an observer sees as the configuration of all the courses of ontogenic drifts that it may undergo under different circumstances of interactions in the medium. As a result, what constitutes a lineage in living systems is the conservation through their reproduction of a particular initial structure that specifies a particular configuration of possible ontogenic drifts; and what constitutes the organization conserved through reproductions that specifies the identity of the lineage is that configuration. Accordingly, a lineage comes to an end when the configuration of possible ontogenic drifts that defines it stops being conserved. The configuration of possible ontogenic drifts that specifies a lineage through its conservation I call the ontogenic phenotype\textsuperscript{19} of the lineage. In each particular living system, however, only one of the ontogenic courses deemed as possible in the ontogenic phenotype by the observer, is realized as a result of its internal dynamics under the contingencies of the particular perturbations that it undergoes in its domain of existence with conservation of organization and adaptation. Consequently, and in general, it is only within the domain of possibilities set by their different or similar initial structures that different composite units may have different or similar ontogenic structural drifts under different or similar histories of perturbations in their domains of existence. Indeed, nothing can happen in the ontogeny of a living system as a composite unity that is not permitted in its initial structure. Or, in other words, and under the understanding that the initial structure of a living system is its genetic constitution, it is apparent that nothing can happen in the ontogenic structural drift of a living system that is not allowed in its genetic constitution as a feature of its possible ontogenies. At the same time, under this understanding it is also apparent that nothing is determined in the initial structure or genetic constitution of a living system, because for anything to occur in a living system, the living system must undergo an actual ontogenic structural drift as an actual epigenetic\textsuperscript{20} structural transformation that take place in an actual history of interactions in the realization of a domain of existence. This is so even in the case of those particular ontogenic features or characters that we call genetically determined because they can be expected to appear in all the ontogenic drifts that a living system can possibly undergo up to the moment of its observation, because such a feature or character will appear only if there is an actual ontogeny. In these circumstances, a biological system of lineages, or system of phylogenies, is defined by the ontogenic phenotype conserved in the living systems that constitute it through their sequential reproductions. As a result, all the members of a system of lineages resemble each other through the ontogenic phenotype that defines the system of lineages, and not through a common genetic constitution maintained by means of a genetic flow.

7.10 Selection

An observer may claim that the actual ontogenic course followed by the structural changes of a living system is, moment by moment, selected by the medium from the many other ontogenic courses that he or she considers available to it at every instant along its life history. Yet, strictly, selection does not take place in the life history of a living system. The life history of a living system is the particular course followed by its ontogenic drift under the contingencies of a particular sequence of interactions. As such, a life history is deterministically generated instant after instant as the structure of the living system changes through its own structurally determined dynamics in its continuous encounter with the medium as an independent entity, and lasts while the living system lasts. Each ontogeny therefore, is uniquely generated as it takes place as a process that follows a course without actual alternatives or decision points along it. The different ontogenic courses that an observer may describe as possible for a living system, are alternative ontogenic courses only for her or him as she or he imagines the living system in different circumstances in the attempt to predict the one that will take place while she or he is unable to compute it by virtue of not being able to treat the living system and the medium as a known structure determined system. The same argument applies to what an observer can say about the phylogenic structural drift, or about the historic genetic change in the population. What an observer in fact does when speaking of selection in relation to living systems, then, is to refer to a discrepancy between an expected and an actual historical outcome, and he or she does so by comparing the actual with the imagined in the phylogenic and the ontogenic structural drifts of living systems. Selection is not the mechanism that generates phylogenic structural change and adaptation. In fact, ontogenic and phylogenic

\textsuperscript{18}de novo: anew, afresh, over again from the beginning.

\textsuperscript{19}phenotype: A type of organism distinguishable from others by observable features; the sum total of the observable features of an individual, regarded as the consequence of the interaction of its genotype with its environment.

\textsuperscript{20}epigenesis: The formation of an organic germ as a new product; theory of opigenesis: the theory that the germ is brought into existence (by successive accretions), and not merely developed, in the process of reproduction.
structural changes and adaptation need not be explained — they are constitutive features of the condition of existence of living systems. All that has to be explained is the course followed by the continuous structural change that takes place in living systems, both in ontogeny and phylogeny, and this is explained by the mechanism of structural drift.

8. The Answer

8.0 Domain of Existence and Praxis

It follows from all that I have said about systems that they exist only in conservation of organization and conservation of adaptation as constitutive conditions of their existence, and that this applies to the observer as a living system as well. It also follows that the present state of any living system, the observer included, or, in general terms, the present state of any system or entity distinguished, is always that of a node in an ongoing network of co-phylogenic and co-ontogenic structural drifts. At the same time it also follows that as long as it is distinguished, any system is distinguished in conservation of organization and adaptation in its domains of existence, and that a domain of existence is a domain of structural coupling that entails all the operational coherences that make possible the system that specifies it. Or, in other words, from all that I have said so far it follows: first, that every entity that is distinguished is distinguished in operational correspondence with its domain of existence, and, therefore, that each living system distinguished is necessarily distinguished in adequate action in its domain of structural coupling; second, that an observer can only distinguish that which he or she distinguishes, and that he or she does so as an expression of the operational coherences of the domain of praxis of living in which he or she makes the description. Let us now consider the question of cognition with all that I have said in mind.

8.1 Cognition

Since the only criterion with which we assess cognition is our assessment of adequate action in a domain that we specify with a question, I proposed, in section 2 of this article, that my task in explaining cognition as a biological phenomenon was to show how adequate action arises in any domain during the operation of a living system. This I have done in the previous sections by showing that a living system is necessarily always engaged in adequate action in the domain in which it is distinguished as a living system in the praxis of living of the observer. And I have shown that this is so because it is constitutive of the phenomenon of observing that any system distinguished should be distinguished both in conservation of organization and of structural coupling and as a node in network of structural drifts. In the distinction of living systems, their distinction as entities engaged in adequate action consists in bringing them forth, in the praxis of living of the observer, both in conservation of autopoiesis and of adaptation and as a moment in their ontogenic drift in a medium. In other words, I have shown that for any particular circumstance of distinction of a living system, conservation of living (conservation of autopoiesis and of adaptation) constitutes adequate action in those circumstances, and, hence, knowledge: living systems are cognitive systems, and to live is to know. But, by showing this I have also shown that any interaction with a living system can be viewed by an observer as a question posed to it, as a challenge to its life that constitutes a domain of existence where he or she expects adequate action of it. And, at the same time, I have also shown, then, that the actual acceptance by the observer of an answer to a question posed to a living system, entails his or her recognition of adequate action by the living system in the domain specified by the question, and that this recognition of adequate action consists in the distinction of the living system in that domain under conditions of conservation of autopoiesis and adaptation. In what follows I present this general explanatory proposition under the guise of a particular scientific explanation:

a) The phenomenon to be explained is adequate action by a living system at any moment in which an observer distinguishes it as a living system in action in a particular domain. And I propose this as the phenomenon to be explained in the understanding that the adequate actions of a living system are its interactions with conservation of class identity in the domain in which it is distinguished.

b) Given that structural coupling in its domain of existence (conservation of adaptation) is a condition of existence for any system distinguished by an observer, the generative mechanism for adequate action in a living system as a structurally changing system, is the structural drift with conservation of adaptation through which it stays in continuous adequate action while it realizes its niche, or disintegrates. Since a system is distinguished only in structural coupling, when an observer distinguishes a living system he or she necessarily distinguishes it in adequate action in the domain of its distinction, and distinguishes it as a system that constitutively remains in structural coupling in its domain of existence regardless of how much its structure, or the structure of the medium, or both, change while it stays alive.

c) Given the generative mechanism proposed in (b), the following phenomena can be deduced to take place in the domain of experiences of an observer: i) the observer...
should see adequate action taking place in the form of coordinated behavior in living systems that are in co-ontogenic structural drift while in recurrent interactions with conservation of reciprocal adaptation; ii) the observer should see that living systems in co-ontogeny separate or disintegrate, or both, when their reciprocal adaptation is lost.

**d)** *The phenomena deduced in* (c) *are apparent in the domain of experiences of an observer in the dynamics of constitution and realization of social systems, and in all circumstances of recurrent interactions between living systems during their ontogenies, in what appears to us as learning to live together. One of these cases is our human operation in language.*

The satisfaction of these four conditions results: a) in the validation, as a scientific explanation, of my proposition that cognition as adequate action in living systems is a consequence of their structural drift with conservation of organization and adaptation; b) in showing that adequate action (cognition) is constitutive to living systems because it is entailed in their existence as such; c) in entailing that different living systems differ in their domains of adequate actions (domains of cognition) to the extent that they realize different niches; and d) in showing that the domain of adequate actions (domain of cognition) of a living system changes as its structure, or the structure of the medium, or both, change while it conserves organization and adaptation.

As the same time, it is apparent from all the above that what I say of cognition as an explanation of the praxis of living takes place in the praxis of living, and that to the extent that what I say is effective action in the generation of the phenomena of cognition, what I say takes place as cognition. If what I say sounds strange, it is only because we are in the habit of thinking about cognition in the explanatory pathway of objectivity without parenthesis, as if the phenomenon connoted by the word cognition entailed pointing to something whose existence can be asserted to be independent of the pointing of the observer. I have shown that this is not and cannot be the case. Cognition cannot be understood as a biological phenomenon if objectivity is not put in parentheses, nor can it be understood as such if one is not willing to follow all the consequences of such an epistemological act.

Let us now treat human operation in language as one of the phenomena which takes place as a consequence of the operation of cognition as adequate (or effective) action. It is particularly necessary to proceed in this manner because our operation in language as observers in the praxis of living is, at the same time, our problem and our instrument for analysis and explanation.

### 8.2 Language

We human beings are living systems that exist in language. This means that although we exist as human beings in language and although our cognitive domains (domains of adequate actions) as such take place in the domain of languaging, our languaging takes place through our operation as living systems. Accordingly, in what follows I shall consider what takes place in language[,] as language arises as a biological phenomenon from the operation of living systems in recurrent interactions with conservation of organization and adaptation through their co-ontogenic structural drift, and thus show language as a consequence of the same mechanism that explains the phenomena of cognition:

**a)** *When two or more autopoietic systems interact recurrently, and the dynamic structure of each follows a course of change contingent upon the history of each’s interactions with the others, there is a co-ontogenic structural drift that gives rise to an ontogenetically established domain of recurrent interactions between them which appears to an observer as a domain of consensual coordinations of actions or distinctions in an environment. This co-ontogenically established domain of recurrent interactions I call a domain of consensual coordinations of actions or distinctions, or, more generally, a consensual domain of interactions, because it arises as a particular manner of living together contingent upon the unique history of recurrent interactions of the participants during their co-ontogeny. Furthermore, because an observer can describe such a domain of recurrent interactions in semantic terms, by referring the different coordinations of actions (or distinctions) involved to the different consequences that they have in the domain in which they are distinguished, I also call a consensual domain of interactions a linguistic domain. Finally, I call the behavior through which an organism participates in an ontogenic domain of recurrent interactions, consensual or linguistic according to whether I want to emphasize the ontogenic origin of the behavior (consensual), or its implications in the present state of the ongoing interactions (linguistic). Similarly, I speak of coordinations of actions or coordinations of distinctions, according to whether I want to emphasize what takes place in the interaction in the relation to the participants (coordinations of actions), or what takes place in the interactions in relation to an environment (coordinations of distinctions).*

**b)** *When one or more living systems continue their co-ontogenic structural drift through their recurrent interactions in a consensual domain, it possible for a recursion to take place in their consensual behavior resulting in the production of a consensual coordination of consensual coordinations of actions. If this were to happen, what*
an observer would see would be that the participants of a consensual domain of interactions would be operating in their consensual behavior making consensual distinctions upon their consensual distinctions, in a process that would recursively make a consensual action a consensual token for a consensual distinction that it obscures. Indeed, this process is precisely what takes place in our languaging in the praxis of living. Accordingly, I claim that the phenomenon of language takes place in the co-ontogeny of living systems when two or more organisms operate, through their recurrent ontogenic consensual interactions, in an ongoing process of recursive consensual coordinations of consensual coordinations of actions or distinctions (Maturana, 1978). Or, in other words, I claim that such recursive consensual coordination of consensual coordinations of actions or distinctions in any domain, is the phenomenon of language. Furthermore, I claim that objects arise in language as consensual coordinations of actions that operationally obscure for further recursive consensual coordinations of actions by the observers the consensual coordinations of actions (distinctions) that they coordinate. Objects are, in the process of languaging, consensual coordinations of actions that operate as tokens for the consensual coordinations of actions that they coordinate. Objects do not pre-exist language. Finally, I claim that all the phenomena that we as observers distinguish in our operation in language arise in the living of living systems, through their co-ontogenic structural drift when this results in an ongoing process of consensual coordinations of actions, as a consequence of the proposed mechanism for the generation of the phenomenon of cognition.

c) Languaging takes place in the praxis of living: we human beings find ourselves as living systems immersed in it. In the explanation of language as a biological phenomenon it becomes apparent that languaging arises, when it arises, as a manner of coexistence of living systems. As such, languaging takes place as a consequence of a co-ontogenic structural drift under recurrent consensual interactions. For this reason, language takes place as a system of recurrent interactions in a domain of structural coupling. Interactions in language do not take place in a domain of abstractions; on the contrary, they take place in the concreteness of the bodyhoods of the participants. Interactions in language are structural interactions. Notions such as transmission of information, symbolization, denotation, meaning, or syntax, are secondary to the constitution of the phenomenon of languaging in the living of the living systems that live it. Such notions arise as reflections in language upon what takes place in languaging. It is for this reason that what takes place in language has consequences in our bodyhoods, and the descriptions and explanations that we make become parts of our domain of existence. We undergo our ontogenic and phylogenetic drifts as human beings in structural coupling in our domain of existence as languaging systems. As such, language takes place in the praxis of living of the observer, and also generates the praxis of living of the observer.

9. Consequences

The explanation that I have given for the phenomenon of cognition has several fundamental consequences which I shall now consider:

9.1 Existence entails cognition in living systems

To the extent that cognition is the operation of a living system in its domain of structural coupling, that is, in its domain of existence, existence of living systems entails cognition in their realization as such, not as a characterization or as a representation or as a disclosure of something independent of them. Cognition as a biological phenomenon takes place in a living system as it operates in its domain of perturbations, and as such it has no content and is not “about” anything. Therefore, when we say that we know some-thing we are not connoting what happens in the mechanism of the phenomenon of cognition as a biological phenomenon, we are reflecting in language upon what we do.

9.2 There are as many cognitive domains as there are domains of existence

I speak of cognition only in relation to living systems. This is arbitrary since what I have said in relation to existence applies to every entity brought forth through an operation of distinction. Therefore, I make this distinction only because I am speaking of living systems and the word cognition is historically bound to them through us. Within this restriction we as observers can say that there are as many domains of cognition as there are domains of existence specified by the different identities that living systems conserve through the realization of their autopoiesis. These different cognitive domains intersect in the structural realization of a living system as living systems realize the different identities that define them as different dimensions of simultaneous or successive structural couplings, orthogonal to the fundamental structural coupling in which the living system realizes its autopoiesis. As a result, these different cognitive domains may appear or disappear simultaneously or independently according to whether the different structurally
intersecting unities that specify them integrate or disintegrate independently or simultaneously (see section 7.6, page 124). Thus, when a student graduates, the cognitive domain specified by the operation in the domain of structural coupling that defines the identity “student” disappears together with the disintegration of the student, or, when a bachelor marries, the cognitive domain that the identity “bachelor” defines as a domain of operational coherences in structural coupling, disappears together with the disintegration of the bachelor. Conversely, when a student graduates and a bachelor marries, the identities “graduate” and “husband” appear with the corresponding cognitive domains specified by the operational coherences that these entities entail.

It follows, therefore, that a living system may operate in as many different cognitive domains as there are different identities that the different dimensions of its structural coupling allow it to realize. It also follows that the different identities that a living system may realize are necessarily fluid, and change as the dimensions of its structural coupling change with its structural drift in the happening of its living. To have an identity, to operate in a particular domain of cognition, is to operate in a particular domain of structural coupling.

9.3 Language is the human cognitive domain
Human beings as living systems operating in language operate in a domain of recursive reciprocal consensual perturbations that constitutes their domain of existence as such. Therefore, language as a domain of recursive consensual coordinations of actions is a domain of existence, and, as such, a cognitive domain defined by the recursion of consensual distinctions in a domain of consensual distinctions. Furthermore, human beings as living systems operating in language constitute observing, and become observers, by bringing forth objects as primary consensual coordinations of actions distinguished through secondary consensual coordinations of actions in a process that obscures the actions that they coordinate. Human beings, therefore, exist in the domain of objects that they bring forth through languaging. At the same time, human beings by existing as observers in the domain of objects brought forth through languaging, exist in a domain that allows them to explain the happening of their living in language through reference to their operation in a domain of dynamic reciprocal structural coupling.

9.4 Objectivity
Objects arise in language as consensual coordinations of actions that in a domain of consensual distinctions are tokens for more basic coordinations of actions, which they obscure. Without language and outside language there are no objects, because objects only arise as consensual coordinations of actions in the recursion of consensual coordinations of actions that languaging is. For living systems that do not operate in language there are no objects; or, in other words, objects are not part of their cognitive domains. Since we human beings are objects in a domain of objects that we bring forth and operate upon in language, language is our peculiar domain of existence and our peculiar cognitive domain. Within these circumstances, objectivity arises in language as a manner of operating with objects without distinguishing the actions that they obscure. In this manner of operating, descriptions arise as concatenations of consensual coordinations of actions that result in further consensual coordinations of actions which, if performed without distinguishing how objects arise, can be distinguished as manners of languaging that take place as if objects existed outside of language. Objects are operational relations in languaging.

9.5 Languaging: operation in a domain of structural coupling
To the extent that language arises as a consensual domain in the co-ontogenic structural drift of living systems involved in recurrent interactions, the organisms that operate in language operate in a domain of reciprocal co-ontogenic structural coupling through reciprocal structural perturbations. Therefore, to operate in language is not an abstract activity as we usually think. To languaging is to interact structurally. Language takes place in the domain of relations between organisms in the recursion of consensual coordinations of consensual coordinations of actions, but at the same time language takes place through structural interactions in the domain of the bodyhoods of the languaging organisms. In other words, although languaging takes place in the social domain as a dance of recursive relations of coordinations of actions, interactions in language as structural interactions are orthogonal to that domain, and as such trigger in the bodyhoods of the participants structural changes that change as much the physiological background (emotional standing) on which they continue their languaging as the course that this physiological change follows. The result is that the social recursive coordinations of actions that constitute languaging, as elements of a domain of recursive operation in structural coupling, become part of the medium in which the participant living systems...
conserve organization and adaptation through the structural changes that they undergo contingent to their participation in that domain. Thus, although the domain of coordinations of actions and the domain of structural change of the participants in language do not intersect, their changes are coupled orthogonally through the structural interactions that take place in language. As the body changes, language changes; and as language changes the body changes. Here resides the power of words. Words are nodes in coordinations of actions in languaging and as such they arise through structural interactions between bodyhoods; it is through this interplay of coordinations of actions and changes of bodyhoods that the world we bring forth in languaging becomes part of the domain in which our ontogenic and phylogenic structural drifts take place.

9.6 Language is a domain of descriptions

Language is a system of recursive consensual coordinations of actions in which every consensual coordination of actions becomes an object through a recursion in the consensual coordinations of actions, in a process that becomes the operation of distinction that distinguishes it and constitutes the observer. In these circumstances, all participants in a language domain can be observers with respect to the sequences of coordinations of actions in which they participate, constituting a system of recursive distinctions in which systems of distinctions become objects of distinction. Such recursive distinctions of distinctions in the happening of living in language that bring forth systems of objects, constitute the phenomenon of description. As a result, all that there is in the human domain are descriptions in the happening of living in language which, as happenings of living in language, become objects of descriptions in language. Descriptions, however, do not replace the happening of living that they constitute as descriptions; they only expand in recursions that follow its operational coherences. Accordingly, scientific explanations, as systems of descriptions, do not replace the phenomena that they explain in the domain of happening of living of the observer, but bring forth operational coherences in that domain that allow for further descriptions in it.

9.7 Self-consciousness arises with language

For a living system in its operation as a closed system, there is no inside or outside; it has no way of making the distinction. Yet, in language such a distinction arises as a particular consensual coordination of actions in which the participants are recursively brought forth as distinctions of systems of distinctions. When this happens, self-consciousness arises as a domain of distinctions in which the observers participate in the consensual distinctions of their participations in language through languaging. It follows from this that the individual exists only in language, that the self exists only in language, and that self-consciousness as a phenomenon of self distinction takes place only in language. Furthermore, it also follows that since language as a domain of consensual coordinations of actions is a social phenomenon, self-consciousness is a social phenomenon, and as such it does not take place within the anatomical confines of the bodyhood of the living systems that generate it; on the contrary, it is external to them and pertains to their domain of interactions as a manner of coexistence.

9.8 History

The significance or meaning of any given behavior resides in the circumstances of its enaction, not in the characteristics of the dynamics of states of the behaving living system or in any particular feature of the behavior itself. In other words, it is not the complexity of the inner states of a living system or of its nervous system, nor any aspect of the behavior itself, that determines the nature, meaning, relevance or content of any given behavior, but rather its placement in the ongoing historical process in which it arises. The higher human functions do not take place in the brain; language, abstract thinking, love, devotion, reflection, rationality, altruism, etc., are not features of the dynamics of states of the human being as a living system or of its nervous system as a neuronal network; they are social historical phenomena. At the same time, history is not part of the dynamics of states of a living system because this latter takes place only in the present, instant after instant, in the operation of its structure in changes that occur out of time. History, time, future and past — as well as space — exist in language as forms of explanation of the happening of living of the observer, and partake of the involvement of language in this happening of living. Therefore, it is in the explanation of the happening of living through the coherences of language that an observer can claim that the structure of a living system that determines its changes of state in the present always embodies its history of interactions because it continuously arises in the present in a structural drift contingent to such history.

9.9 The nervous system expands the domain of states of the living system

For living systems to operate in language, the diversity and plasticity of their internal states must match the diversity of the changing circumstances generated in their recursive consensual coordinations of actions. In other
words, although language does not take place within the bodyhood of the living system, the structure of the living system must provide the diversity and plasticity of states required for language to take place. The nervous system contributes to the fulfillment of these requirements by expanding the domain of states of the organism through the richness of its dynamics as a closed network of changing relations of neuronal activities (see Maturana 1983), and by expanding in the organism the domain of its changes of states that follow in it a course contingent upon both its own changes of states and its interactions in the medium. And, this the nervous system does: a) by admitting the interactions of the organism as orthogonal perturbations from the medium, a condition that makes its structural drift as a cellular network, as well as the structural drift of the organism and its participation in the generation of behavior, contingent upon the history of those interactions; and b) by admitting orthogonal interactions from the components of the organism, a condition that makes its structural drifts as a cellular network, as well as the structural drift of the organism and its participation in the generation of behavior, recursively contingent upon the dynamics of structural changes of the organism. The result of all this for the organism (including its nervous system) is the possibility of the recursive involvement of its dynamics of states with the ongoing flow of its own dynamics of states through its behavior, if it has sufficient plasticity in the nervous system and participates in a sufficiently large domain of recurrent interactions with other organisms. Indeed, this recursive involvement is what permits the production of language as this arises when the internal recursiveness of the dynamics of states of the nervous system couples with the recurrence of social consensual coordinations of actions, giving rise to the recursion of consensual coordinations as an ongoing process in the generation of social behavior.

The ongoing recursive coupling of behavioral and structural changes that give origin to language, is possible because a structure determined system exists in two non-intersecting phenomenal domains realized through orthogonally dependent structures, namely, its domain of states and its domain of interactions. It is our basic double existence as structure determined systems in two non-intersecting but orthogonally coupled phenomenal domains that permits us in our operation in language to generate endless orthogonally interdependent and yet non-intersecting phenomenal domains in the happening of our living.

9.10 Observing takes place in languaging

The nervous system is a closed network of interacting active neuronal elements (neurons, effectors and receptors) that are structurally realized as cellular components of the organism. As such, it operates as a closed network of changing relations of activity between its components; that is, it is constitutive to the organization of the nervous system that any change of relations of activity between its components leads to further changes of relations of activity between them, and that in that sense it operates without inputs or outputs. Therefore, any action upon an environment that an observer sees as a result of the operation of the nervous system, is a feature of the structural changes that take place in the nervous system as a cellular network, and not a feature of its operation as such. Indeed, the operation of the nervous system and the actions of the organism take place in non-intersecting phenomenal domains realized by orthogonally related structures. Similarly, any perturbation of the medium impinging upon the organism is a perturbation in the structure of the nervous system, not an input into the nervous system’s dynamics of states, and if this dynamic of states changes it does so because the structure of the nervous system changes in a manner contingent to the perturbation, not because it admits an input to its operation. As a result, all that takes place in the nervous system is a dance of changing relations of neuronal activities that in the domain of structural coupling where the observer beholds the organism appears as a dance of changing configurations of effector-sensor correlations. An observer that sees an effector-sensor correlation as an adequate behavior does so because he or she beholds the organism in the domain of structural coupling in which the distinguished behavior takes place in the flow of its conservation of adaptation. The organism in its operation does not act upon an environment, nor does the nervous system operate with a representation of an environment in the generation of the adequate behavior of the organism; the environment exists only for an observer (see section 6.13, page 120), and as such it is a phenomenon of languaging.

That the nervous system should operate as a closed network of changing relations of activity between its components, and not with representations of an environment, has two fundamental consequences: a) for the operation of the nervous system, everything is the same; or in other words, all that takes place in the operation of the nervous system are changes of relations of activity between its components, and it does not distinguish in its operation whether its changes of state arise through what an observer sees as external structural perturbations; b) for the observer, the organism operates in many different domains of structural coupling which intersect operationally in the domain of states of the nervous system through the structural perturbations triggered in it by the interactions of the organism in these different domains. As a result of this circumstance several things
happen that are relevant for the things happening that are relevant for the understanding of the domains of reality that the observer brings forth (see following sections). Firstly, an observer can always treat a state of activity of the nervous system (a configuration of changes of relations of activity) that arises as a result of a particular interaction of the organism as a representation of that integration, and can do so by constituting the domain of descriptions as a meta phenomenal domain in which both the organism and the circumstance of its interactions are distinguished together. Secondly, different states of activity of the nervous system that for an observer represent interactions of the organism in non-intersecting phenomenal domains (different domains of structural coupling), can affect each other and give rise to behaviors of the organism that constitute meta domains of relations between the phenomena that take place in these non-intersecting phenomenal domains. Thirdly, the meta domains of relations established through the operational intersection in the domain of states of the nervous system of otherwise non-intersecting phenomena that arise in the operation of the organism in its different domains of structural coupling, constitute, through the behaviors that these intersections generate, new domains of structural coupling of the organism that do not intersect with the others. And, fourthly, the operational intersection of the different domains of interactions (different domains of structural coupling) of an organism in the operation of its nervous system, allows it to operate in recurrent interactions with other organisms in the continuous recursive generation of meta-domains of relations which become phenomenal domains in their own right in the ongoing flow of those recurrent interactions. The result of all this intersection of domains or relations in the closed operation of the nervous system through its coupling to the interactions of the organism, is the possibility of the arising of self observing as the closed operation of the nervous system becomes recursive when it couples to the dynamics of observing as two or more organisms generate a recursive domain of coordinations of actions. That is, the operation of the nervous system as a closed network of interactions (relations of activity) permit observing and the observer to arise as operations in language brought forth through the operational coherences of language. Or, in other words, since the operation of the nervous system appears in the domain of operation of the organism as sensory-effector correlations, observing is coordination of bodyhoods of observers through their generation of a choreography of interlaced sensory-effector correlations, because all that there is for the operation of the nervous system of the observer in observing is its closed dynamics of changing relations between its neuronal components. It is only for an observer who sees two or more interacting organisms in his or her praxis of living, that the sensory-effector correlations of these organisms appear recursively involved with each other in a network of recursive sensory-effector correlations constituted through the orthogonal interactions of their nervous systems. And, finally, it is only for an observer that such a network of recursive sensory-effector correlations becomes language and constitutes a meta domain (with respect to the operation of the nervous system) where explanations and observing take place; when the organism's recurrent interactions become a recursive system of consensual coordinations of consensual coordinations of actions.

10. The domain of physical existence

A domain of existence is a domain of operational coherences entailed by the distinction of a unity by an observer in his or her praxis of living. As such, a domain of existence arises as the domain of the operational validity of the properties of the unity distinguished if it is a simple unity, or as the domain of validity of the properties of the components of the unity distinguished if the unity distinguished is a composite one. As a consequence, the distinction of a unity entails its domain of existence as a composite unity that includes the distinguished unity as a component. Therefore, there are as many domains of existence as kinds of unities an observer may bring forth in his or her operations of distinction. In these circumstances, since the notion of determinism applies to the operation of the properties of the components of a unity in its composition (see sections 6.9, page 120, and 7.4, page 122), all domains of existence, as composite entities that include the unities that specify them, are deterministic systems in the sense indicated above. This has certain consequences for us living systems existing in language, and for the explanations that we generate as such beings. The following are some of these consequences:

i) Our domain of existence as the composite unities that we are as molecular autopoietic systems, is the domain of existence of our component molecules, and entails all the operational coherences proper to the molecular existence. Therefore, our existence as autopoietic systems implies the satisfaction of all the constraints that the distinction of molecules entails, and our operation as molecular systems implies the determinism entailed in the distinction of molecules.

ii) If we distinguish molecules as composite entities, they exist in the domain of existence of their components, and as such their existence implies the satisfaction of the determinism that the distinction of the latter entails. The
same applies to the decomposition of the components of molecules, and so on recursively. Since unities and their domains of existence are brought forth and specified in their distinction in the happening of living of the observer, the only limit to the recursion in distinctions is the limit of the diversity of experiences of the observer in his or her happening of living (praxis).

iii) Since the observer as a living system is a composite entity, the observer makes distinctions in his or her interactions as a living system through the operation of the properties of his or her components. If the observer uses an instrument, then his or her distinctions take place through the operation of the properties of the instrument as if this were one of its components. The result of all this is that an observer cannot make distinctions outside its domain of existence as a composite entity.

iv) Descriptions are series of consensual distinctions subject to recursive consensual distinctions in a community of observers. Observers operate in language only through their recursive interactions in the domain of structural coupling in which they recursively coordinate consensual actions as operations in their domains of experiences through the praxis of their living. Therefore, all interactions in language between observers take place through the operation of the properties of their components as living systems in the domain of their reciprocal structural coupling. Or, in other words, we as human beings operate in language only through our interactions in our domain of existence as living systems, and we cannot make descriptions that entail interactions outside this domain. As a consequence, although language as a domain of recursive consensual distinctions is open to unending recursions, language is a closed operational domain in the sense that it is not possible to step outside language through language, and descriptions cannot be characterizations of independent entities.

v) Since everything said is said by an observer to another observer, and since objects (entities, things) arise in language, we cannot operate with objects (entities or things) as if they existed outside the distinctions of distinctions that constitute them. Furthermore, as entities in language, objects are brought forth as explanatory elements in the explanation of the operational coherences of the happening of living in which language takes place. Without observers nothing exists, and with observers everything that exists exists in explanations.

vi) As we put objectivity in parenthesis because we recognize that we cannot experientially distinguish between what we socially call perception and illusion, we accept that existence is specified by an operation of distinction: nothing pre-exists its distinction. In this sense, houses, persons, atoms or elementary particles, are not different. Also in this sense, existence as an explanation of the praxis of living of the observer, is a cognitive phenomenon that reflects the ontology of observing in such praxis of living, and not a claim about objectivity. Therefore, with objectivity in parenthesis, an entity has no continuity beyond or outside that specified by the coherences that constitute its domain of existence as this is brought forth in its distinction. The claim that the house to which I return every evening from work is the same that I left in the morning, or that whenever I see my mother I see the same person that gave birth to me, or that all the points of the path of an electron in a bubble chamber are traces left by the same electron, are claims that constitute cognitive statements that define sameness in the distinction of the unity (house, mother, or electron) as this is specified in the operation of distinction that brings it forth together with its domain of existence. Since according to all that I have said, cognitive statements are not, and cannot be, statements about the properties of independent objects, sameness is necessarily always a reflection by the observer in the process of observing in the domain of existence that he or she brings forth in his or her distinctions. Furthermore, since no entity can be distinguished outside its domain of existence as the domain of operational coherences in which it is possible, every distinction specifies a domain of existence as a domain of possible distinctions; that is, every distinction specifies a domain of existence as a versum in the multiversa, or colloquially, every distinction specifies a domain of reality.

vii) A scientific explanation entails the proposition of a mechanism (or composite entity) that, if realized, would generate the phenomenon to be explained in the domain of experiences (praxis or happening of living) of the observer (see section 4, page 113). The generative character of the scientific explanation is constitutive to it. Indeed, this ontological condition in science carries with it the legitimacy of the foundational character of the phenomenal domain in which the generative explanatory mechanism takes place, as well as the legitimacy of treating every entity distinguished as a composite unity, asking for the origin of its properties in its organization and structure. And because this is also the case for our common sense explanations in our effective operation in our daily life, it seems natural to us to ask for a substratum independent of the observer as the ultimate medium in which everything takes place. Yet, although it is an epistemological necessity to expect such a substratum, we constitutively cannot assert its existence through distinguishing it as a composite entity and thereby characterize it in terms of components and relations between components. In order to do so, we would have to describe it, that is, we would have to bring it forth in language and give it form.
in the domain of recursive consensual coordinations of actions in which we exist as human beings. However, to do so would be tantamount to characterizing the substratum in terms of entities (things, properties) that arise through languaging, and which, as consensual distinctions of consensual coordinations of actions, are constitutively not the substratum. Through language we remain in language, and we lose the substratum as soon as we attempt to language it. We need the substratum for epistemological reasons, but in the substratum there are no objects, entities or properties; in the substratum there is nothing (no-thing) because things belong to language. In other words, nothing exists in the substratum.

viii) Distinctions take place in the domain of experiences, in the happening or praxis of living of the observer as a human being. For this reason, the domain of operational coherences that an observer brings forth in the distinction of a unity as its domain of existence, also occurs in his or her domain of experiences as a human being as part of his or her praxis of living. Therefore, since language is operations in a domain of recursive consensual coordinations of consensual coordinations of actions in the domain of experiences of the observers as human beings, all dimensions of the domains of experiences of the observers exist in language as coordinations of actions between observers. As such, all descriptions constitute configurations of coordinations of actions in some dimension of the domains of experiences of the members of a community of observers in co-ontogenic structural drift. Physics, biology, mathematics, philosophy, cooking, politics, etc., are all different domains of languaging, and as such are all different domains of recursive consensual coordinations of consensual coordinations of actions in the praxis or happening of living of the members of a community of observers. In other words, it is only as different domains of languaging that physics, biology, philosophy, cooking, politics, or any cognitive domain exists. Yet, this does not mean that all cognitive domains are the same; it only means that different cognitive domains exist only as they are brought forth in language, and that languaging constitutes them. We talk as if things existed in the absence of the observer, as if the domain of operational coherences that we bring forth in a distinction would operate as it operates in our distinctions regardless of them. We now know that this is constitutively not the case. We talk for example, as if time and matter were independent dimensions of a physical space. Yet, it is apparent from my explanation of the phenomenon of cognition that they are not and cannot be. Indeed, time and matter are explanations of some of the operational coherences of the domains of existence brought forth in the distinctions that constitute the ongoing languaging in the praxis of living of the members of a community of observers. Thus, time — with past, present, and future — arises as a feature of an explanatory mechanism that would generate what the observer experiences as successive non-simultaneous phenomena; and matter arises as a feature of an explanatory mechanism that would generate what he or she experiences as mutually impenetrable simultaneous distinctions. Without observers nothing can be said, nothing can be explained, nothing can be claimed, . . . in fact, without observers nothing exists, because existence is specified in the operation of distinction of the observer. For epistemological reasons, we ask for a substratum that could provide an independent ultimate justification or validation of distinguishability, but, for ontological reasons, such a substratum remains beyond our reach as observers. All that we can say ontologically about the substratum that we need for epistemological reasons, is that it permits what it permits, and that it permits all the operational coherences that we bring forth in the happening of living as we exist in language.

ix) As we operate in language we operate in a domain of reciprocal structural coupling in our domain of existence as composite unities (molecular autopoietic systems), that is, we operate in the domain of existence of our components. Therefore, anything that we say, any explanation that we propose, can only entail distinctions that involve the operation of our components in their domain of existence as we operate as observers in language. Accordingly, it is in the domain where we exist as composite entities that we distinguish molecules, atoms, or elementary particles, as entities that we bring forth in language through operations of distinction that specify them as well as the operational coherences of their domains of existence. If we call the physical domain of existence is the domain where physicists distinguish molecules, atoms or elementary particles, then we as living systems specify the domain of physical existence as our limiting cognitive domain as we operate as observers in language, interacting in the domain of existence of our components as we bring forth the physical domain of existence as an explanation of the happening of our living. We do not exist in a pre-existing domain of physical existence; we bring it forth and specify is as we exist as observers. The experience of the physicist, be this in classic, relativistic or quantum physics, does not reflect the nature of “the universe”: it reflects the ontology of the observer as a living system as he or she operates in language bringing forth the physical entities and the operational coherences of their domains of existence. Einstein made the assertion, that scientific theories (explanations) are free creations of the human mind; and then, in what seemed to reveal a paradox, he asked the question, “How is it, if that is the case, that the universe is intelligible through them?” In this article I have shown that there is
no paradox if one reveals the ontology of observing and the ontology of scientific explanations through putting objectivity in parenthesis. Indeed, I have shown that a scientific explanation entails:

a) the proposition of a phenomenon to be explained, brought forth as such as \textit{a priori} in the praxis of living (domain of experiences) of the observer;

b) the proposition of an \textit{ad hoc} generative mechanism, also brought forth \textit{a priori} in the praxis of living of the observer, that if allowed to operate would generate the phenomena being explained as a consequence to be witnessed by the observer in her or his praxis of living;

c) the operational coherence of the four operational conditions that constitute its criterion of validation, as they are realized in the praxis of living of the observer; and

d) the superfluity and impertinence of the assumption of objectivity.

From all this it follows that the explanatory mechanism proposed in a scientific explanation is constitutively “a free creation of the human mind” because it is brought forth constitutively \textit{a priori} in the praxis of living of the observer, that is without any other justification that the \textit{ad hoc} generative character of the phenomenon explained. It also follows from all this, that a scientific explanation constitutively explains the universe (versum) in which it takes place because both the explanatory mechanism and the phenomenon being explained occur, in a generative relation, as non-intersecting phenomena of the same operational domain of the praxis of living of the observer. Or, in other words, it also follows from all this that since the operation of distinction specifies the entity distinguished as well as its domain of existence, a scientific explanation constitutively explains the universe (versum) in which it takes place because it brings with it the domain of operational coherences (the versum of the multiversa) of the praxis of living of the observer that it makes intelligible. Strictly, then, there is no paradox; scientific explanations do not explain an independent world or universe, they explain the praxis of living (the domain of experiences) of the observer making use of the same operational coherences that constitute the praxis of living of the observer in languaging. It is here that science is poetry.

11. Reality

The word “reality” comes from the Latin noun \textit{res} that means “object” (thing), and as it is commonly used signifies objectivity without parentheses. The real, and sometimes the really real, is meant to be that which exists independently of the observer. Now we know that the concepts entailed in this way of speaking cannot be sustained. Objects, things, arise in language when a consensual coordination of actions, by being consensually distinguished in a recursion of consensual coordinations of actions, obscures the actions that it coordinates in the praxis of living in a consensual domain. Since according to this circumstance an object, a unity, is brought forth in language in an operation of distinction that is a configuration of consensual coordinations of actions, when an object is distinguished in language its domain of existence as a coherent domain of consensual coordinations of actions becomes a domain of objects, a domain of reality, a versum of the multiversa such that all that is in it is all that is entailed in the consensual coordinations of actions that constitute it. Every domain of existence is a domain of reality, and all domains of reality are equally valid domains of existence brought forth by an observer as domains of coherent consensual actions that specify all that is in them. Once a domain of reality is brought forth, the observer can treat the objects or entities that constitute it both as if they were all that there is and as if they existed independently of the operations of distinction that bring them forth. And this is so because a domain of reality is brought forth in the praxis of living of the observer as a domain of operational coherences that requires no internal justification.

It follows from all this, that an observer operating in a domain of reality necessarily operates in a domain of effective actions, and that another observer claims that the first one commits a mistake or has an illusion only when the first observer begins to operate in a domain of reality different from the one that the second observer expected. Thus, if we specify the operation of distinction “ghost”, then ghosts exist, are real in the domain of existence brought forth in their distinction, and we can do effective actions with them in that domain, but they are not real in any other domain. Indeed, everything is an illusion outside its domain of existence. In other words, every domain of reality as a domain of operational coherences brought forth in the happening of living of the observer in language, is a closed domain of effective consensual actions, that is, a cognitive domain; and conversely, every cognitive domain as a domain of operational coherences is a domain of reality. What is uncanny, perhaps, is that although different domains of reality are seen by an observer as different domains of coordinations of actions in an environment, they are lived by the observer as different domains of languaging which differ only through their ongoing transformation in the different circumstances of recursion in which they arise. We as observers can explain this now by saying that, as we operate in language through our consensual interactions in the happening of living of a community of ob-
servers, our structural drift in the happening of our living becomes contingent upon the course of those consensual interactions, and that this takes place in a manner that keeps the transformation of the happening of our living congruent with the domain of reality that we bring forth in that community of observers, or we disintegrate as members of it. It is this that makes us observing systems systems capable, through language, of an endless recursive generation of new cognitive domains (new domains of reality) as new domains of praxis of observing in our continuous structural drifts as living systems.

12. Self consciousness and reality

The self arises in language in the linguistic recursion that brings forth the observer as an entity in the explanation of his or her operation in a domain of consensual distinctions. Self-consciousness arises in language in the linguistic recursion that brings forth the distinction of the self as an entity in the explanation of the operation of the observer in the distinction of the self from other entities in a consensual domain of distinctions. As a result, reality arises with self-consciousness in language as an explanation of the distinction between self and non-self in the praxis of living of the observer. Self, self-consciousness and reality exist in language as explanations of the happening of living of the observer. Indeed, the observer as a human being in language is primary with respect to self and self-consciousness, these arise as he or she operates in language explaining his or her experiences, his or her praxis of living as such. That the entities brought forth in our explanations should have an unavoidable presence in our domain of existence, is because we are realized as observers as we distinguish these entities, in the domain of operational coherences that they define as we distinguish them. We do not go through a wall in the praxis of living because we exist as living systems in the same domain of operational coherences in which a wall exists as a molecular entity, and a wall is distinguished as a composite entity in the molecular space as that entity through which we cannot go as molecular entities.

The observer is primary, not the object. Better, observing is a given in the praxis of living in language, and we are already in it when we begin to reflect upon it. Matter, energy, ideas, notions, mind, spirit, God, ... are explanatory propositions about the praxis of living of the observer. Furthermore, matter, energy, ideas, notions, mind, spirit or God, as explanatory propositions entail different manners of living of the observer in recursive conservation of adaptation in the domains of operational coherences brought forth in their different distinctions. Thus, when the observer operates with objectivity without parenthesis, he or she operates in an explanatory avenue that entails neglecting the experiential indistinguishability between what we call perception and illusion, and when he or she operates with objectivity in parentheses he or she operates in an explanatory avenue that entails accepting this indistinguishability as a starting point. In the explanatory path of objectivity without parentheses, the observer, language, and perception, cannot be explained scientifically as biological phenomena because in this explanatory path it is assumed that the observer can make reference to entities that exist independently of what he or she does, an assumption which is contradictory with the structural determinism of the living system and the mechanistic nature of a scientific explanation; while in the explanatory path of objectivity in parenthesis there is not such a contradiction. At the same time, when one operates within any given domain of reality one can operate with objectivity without parenthesis without contradiction, but when a disagreement arises with another observer, and one thinks that it is not a matter of a simple logical mistake, in that explanatory path one is forced to claim a privileged access to an objective reality to resolve it, and to deal with errors as if they were mistakes of what is. If in similar circumstances one is operating with objectivity in parenthesis, one finds that the disagreeing parties operate in different domains of reality, and that the disagreement disappears only when they begin to operate in the same one. Furthermore, one also finds that errors are changes of domain of reality in the operation of an observer that he or she notices only a posteriori. Finally, by operating in the explanatory path of objectivity without parenthesis we cannot explain how an observer operates in the generation of a scientific explanation because we take for granted the abilities of the observer. Contrary to this state of affairs, if we operate in the explanatory path objectivity in parentheses, scientific explanations and the observer appear as components in a single closed generative explanatory mechanism, in which the properties or abilities of the observer are shown to arise in different phenomenal domain than the one in which its components operate.

We human beings exist only as we exist as self-consciousness entities in language. It is only as we exist as self-consciousness entities that the domain of physical existence exists as our limiting cognitive domain in the ultimate explanation of the human observer’s happening of living. The physical domain of existence is secondary to the happening of living of the human observer, even though in the explanation of observing the human observer arises from the physical domain of existence. Indeed, the understanding of the ontological primacy of observing is basic for the understanding of the phenomenon of cognition. Human existence is a cognitive existence
and takes place through languaging; yet, cognition has no content and does not exist outside the effective actions that constitute it. This why nothing exists outside the distinctions of the observer. That the physical domain of existence should be our limiting cognitive domain does not alter this. Nature, the world, society, science, religion, the physical space, atoms, molecules, trees . . . indeed all things, are cognitive entities, explanations of the praxis or happening of living of the observer, and as such, as this very explanation, they only exist as a bubble of human actions floating on nothing. Every thing is cognitive, and the bubble of human cognition changes in the continuous happening of the human recursive involvement in co-ontogenic and co-phylogenic drifts within the domains of existence that he or she brings forth in the praxis of living. Every thing is human responsibility.

The atom and the hydrogen bombs are cognitive entities. The big bang, or whatever we claim from our present praxis of living gave origin to physical versum, is a cognitive entity, an explanation of the praxis of living of the observer bound to the ontology of observing. Our happening of living takes place regardless of our explanations, but its course becomes contingent upon our explanations as they become part of the domain of existence in which we conserve organization and adaptation through our structural drifts. Our living takes place in structural coupling with the world that we bring forth, and the world that we bring forth is our doing as observers in language as we operate in structural coupling in it in the praxis of living. We cannot do anything outside our domains of structural coupling; we cannot do anything outside our domains of cognition; we cannot do anything outside our domains of languaging. This is why nothing that we do as human beings is trivial. Everything that we do becomes part of the world that we live as we bring it forth as social entities in language. Human responsibility in the multiversa is total.

Bibliography

Cognitive Strategies
Humberto R. Maturana
(1974)

My purpose in this article is to discuss cognition in relation to man and the unity of man, in an attempt to show that any notion that we may have about the unity of man is bound to our views about knowledge and reality. Since everything that I say is said as an observer addressing other observers, I shall consider the statement that “any human action implies knowledge” as a sufficient experiential characterization of cognition, and let any additional connotation arise in the course of the article.¹

A. The objectivity of knowledge.

Present views about cognition as they are generally held by scientists, both explicitly and implicitly, are founded in the following epistemological notions.

Notion 1. We exist in an objective world that can be known and about which we can make cognitive statements that reveal it as an independent reality whose validity is, therefore, independent from us as observers.

Comment: Although experientially this notion seems proven by the very circumstances that generate it, namely by our day to day manipulative experience and the predictive success of our operation as physical entities, it is an a priori notion because a successful prediction does not prove that the operation through which we make it reflects an objective reality, or constitutes an expression of our cognitive access to this reality. A prediction is a statement of what is the case within a relational matrix. Accordingly, if by some observational procedure the phenomenon considered is revealed through a projection onto a relational matrix, any statement of what is the case in that relational matrix will necessarily be observed as a state of the matrix onto which the phenomenon considered can be projected in the act of observation. Therefore, the success of a prediction only proves that a certain mapping or projection operation can be made, but does not reveal the nature of what it is that is mapped or projected.

Notion 2. We obtain knowledge through our sense organs by a process of mapping the objective external reality onto our nervous system, accommodating our behaviour to the structure of the world revealed through this mapping.

Comment: This notion seems proven by electrophysiological experiments that show that there are nerve cells that appear to function as filters or detectors of describable environmental configurations such as edges or directions of movement. To the extent that these cells seem to reveal an independent reality, they appear as perceptual operators that represent the external world in the activity of the nervous system. The objection is rather obvious, however, that it is a general feature of all filters that their organization determines what passes through them and, hence, they can only reveal that certain mapping opera-

¹Source: Heinz von Foerster, Cybernetics of Cybernetics, BCL Report no. 73–38 (Urbana: Biological Computer Laboratory, Department of Electrical Engineering, University of Illinois, 1974).
tions can be made. So if nerve cells do act as filters, it would not be possible to distinguish any objective feature of the outside world through them. This same criticism also applies to instruments. The genetic argument that our present day organization is the result of evolution, although valid with respect to the origin of the structure and operation of our sense organs as components of our organism, does not solve the cognitive problem. If our sense organs function as filters we cannot use them to make any objective statement about the external world—unless we possess a Maxwell’s demon with access to absolute knowledge who observes the product of our sense organs’ operation, and acts on this product as we supposedly do on the outside world.

Notion 3. Information represents an actual physical magnitude that can be measured objectively as a property that characterizes the organization of an observable system.

Comment: According to this notion, the organization of any system can be analyzed and described in a non-trivial manner in terms of its information content. According to this notion, also, living systems are considered to be systems that process the information that they gather through their sense organs, and thus are able to make objective statements about the outside world. The use of the notion of information for the analysis of biological systems, is, however, fallacious for the following reasons:

i) The notion of information is in fact a cognitive notion that refers to the observer’s uncertainty with respect to the system, situation or phenomenon under consideration, not a notion that refers to a physical magnitude, even though the mathematical expression of its measure is formally similar to the expression of entropy. In engineering terms the measure of information is a measure of the frequency of occurrence of a given phenomenon as a function of its probability, and as such constitutes a cognitive statement. Furthermore, it is a cognitive statement that can be used to characterize a system only a posteriori, that is, after the system has been sufficiently characterized in operational terms so that its possible states and their probabilities may be assessed.

ii) Since in order to characterize a system in informational terms one must know the system completely, doing so with an already known system is to make a trivially redundant description, and doing so with an incompletely known system as if it were known is a mistake. If, on the contrary, one attempts to design a system, the use of information concepts to assess the domain of its possible states is a non-trivial affair.

iii) Due to his cognitive operation, an observer frequently attaches semantic value to the biological phenomena considered by him as if this semantic value participated as a component in the mechanism of their realization, which cannot be the case because meaning is a contextual relation. This, for example, occurs in genetic description when one speaks about the genetic code as if the nucleic acids constituted signals in a system of communication, which is obviously not the case because they are constitutive components of the process of protein synthesis. Thus, to speak about the coding of genetic information in the nucleic acids is acceptable in a situation in which the listener essentially knows what one is talking about, but is a mistake if one wants to provide a mechanistic representation of the genetic phenomena. This problem is aggravated by a frequent confusion of notions when information and meaning are considered as equivalent in the attempt to quantify semantic problems.

iv) It is said that living systems obtain information from the environment and process it to generate their conduct, and that their organization can be characterized in terms of this capacity. That this cannot be properly done should by now be obvious, yet let me add the following: The states and the transitions of states of any system is determined by its organization. Accordingly, the states of the sense organs and of the organism (nervous system) as well as their transitions are necessarily determined by their organizations, and the environment as a perturbing agent can only act as a historical instance for their occurrence, not however for their determination. Therefore any uncertainty about the course of change followed by the sense organs and the organism as a result of an interaction is merely cognitive, belonging to the domain of observation. The notion of information does not apply as a characterization of the operation of the nervous system.

B. Objective knowledge and the unity and diversity of man.

Current views about the unity and diversity of man are, generally, implicitly or explicitly, subordinated to the notions discussed above, and adopt fundamentally three
Expression 1. Men are genetically equivalent to the extent that they belong to the same species, and all human diversity is either due to genetic variability within this fundamental equivalence, or to up-bringing (cultural and physical environmental differences during ontogeny), or to both.

Comment: The validity of the notion of the fundamental genetic equivalence of man is not to be questioned. In fact, human membership in a single species is basic to any notion of human unity because it constitutes the condition of their possibility: Sexual recognition. Mankind is defined by the very biological operation through which men are generated. The cognitive implications, however, vary according to the notion of reality under which the biological unity of man is considered. Thus, if one accepts, as is usually done, the notion of an objective reality accessible to our cognition, human diversity, whichever way it arises, would not represent an intrinsic diversity in the cognitive domains of different men but only a circumstantial difference in their access to this objective reality. The relation between ontogeny and cognition, or between experience and cognition, under this view, is merely contingent, and not determinant.

Expression 2. Cultural differences only reflect a different mode of treating an objective reality.

Comment: If there is an objective reality, cultural differences can only represent different modes of treating it, and have no other justification than the historical contingencies of their origin associated with the basic conservatism of biological processes. Therefore, under this view the toleration of cultural differences is, by necessity, an expression of their acceptance from the perspective of better knowledge, and not the recognition of their legitimacy as expressions of different but valid cognitive domains. Also, cultural change can only be viewed as either a social transformation towards the proper cultural treatment of the objective reality (that is, towards a society founded in scientific knowledge), or as a social transformation away from such a treatment (that is, towards a society founded on subjectivism). However, since knowledge of an objective reality could not be denied if we had it, under this view the course of cultural change can only be, in the long run, unidirectional, and social strife can only be the confrontation of truth and falsehood.

Expression 3. The cultural unity of man can only be obtained through the development of a culture in which men base their conduct on objective knowledge; that is, through the development of a culture in which men have the right way of looking at reality.

Comment: To the extent that we live in an objective world accessible to our knowledge, it seems legitimate to expect that all human differences will lose significance if indeed men learn to look at the world objectively, and to act accordingly. In fact, the belief in that this is the right approach is implicitly or explicitly present in all modern political or sociological strife, and all the parties involved adduce the argument of objectivity in support of their positions and as a justification for their intolerance and negation of other views. This is, however, the only consistent attitude possible to anyone who thinks that he has access to an objective truth, whether by revelation or through scientific inquiry.

C. Cognition as a subject dependent phenomenon.

My criticism of the notion that we have cognitive access to an objective reality is not new. In fact, philosophers, psychologists, and biologists have on many diverse occasions argued that the act of cognition is somehow bound to the knower. Unfortunately, philosophers and scientists generally feel that recognizing that cognition is a subject dependent phenomenon leads to idealism and to solipsism. I think that this should not be the case and that there are two basic sources to this fear:

i) It is difficult for us as western thinkers to imagine cognition as a subject dependent phenomenon because we live immersed in a denotative linguistic domain in which even subjective notions are expressed denotatively, as if their existence were independent of us as observers.

ii) It seems that a biological mechanism that gives rise to an observer with a subject dependent cognitive domain in which he uses a denotative language with manipulative success is a paradox, and hence, impossible.

Although I shall not attempt in this presentation a full discussion of the problem of cognition, I shall endeavour to show that, biologically, cognition is constitutively a subject dependent process, and that solipsism arises as a problem only if we insist on demanding from a subject dependent cognitive domain the properties of subject independent cognitive domain.

Statement 1. Cognition as a process is constitutively bound to the organization and structure of the knower because all the states and interactions in which the knower
can enter are determined by his organization and structure. This statement implies the idea that cognition is a biological phenomenon.

Comment: The domain of states that a system can adopt without loss of identity is necessarily determined by the organization which defines it and the structure which realizes it. If a system is deformed in a manner not prescribed by its organization and structure it disintegrates. Accordingly, the problem of understanding the cognitive domain of a living system as the domain of its possible states is subordinated to the understanding of its organization as a living system and its structural realization as a particular concrete unity. In relation to this the following considerations are pertinent:

i) Every unity is either an unanalyzable whole (or can be treated as such) endowed with properties that define it, or it is a complex system realized through the properties of its components. If the latter is the case, the complex system is defined as a unity by the relations that its components must satisfy to constitute it, and its properties as a unity constitute its organization. Therefore, to characterize the organization of any system it is necessary and sufficient to point to the relations that define it as a unity. The components and the actual relations between components that realize a particular system as a concrete entity constitute its structure.

ii) Present day biological knowledge allows us to say that a living system considered as a unity in the physical space, that is, as an entity topologically and operationally separable from the physical background, is defined by an organization that consists of a network of processes of production and transformation of components, molecular and otherwise, that through their interactions: a) recursively generate the same network of processes of production of components that generated them; and b) constitute the system as a physical unity by determining its boundaries in the physical space. This organization I call the autopoietic system. Due to this organization a living system is an autonomous unity, self-assertive in its dynamic capacity to withstand deformation under continuous turnover of matter while remaining invariant in its organization.

iii) Since a living system is defined as a unity by its autopoietic organization, all the transformations that it may undergo without losing its identity are transformations in which its organization remains invariant: an autopoietic system is a homeostatic system that has its own organization as the essential variable that it maintains constant through its operation. Therefore, all the unitary phenomena of an autopoietic system are constitutively subordinated to the maintenance of its autopoiesis.

iv) Mechanistic systems (machines) whose organization is not autopoietic do not produce the components that constitute them as unities, and, hence, the product of their operation is different from themselves. The physical unity of these systems is determined by processes that do not enter in their organization. These systems or machines, which I call allopoietic systems, have, by their constitution, input and output relations as a characteristic of their organization: their output is the product of their operation, and their input is what they transform to produce this product. The phenomenology of an allopoietic machine is the phenomenology of its input-output relations. In autopoietic systems the situation is different. For an autopoietic system as a homeostatic system that has its own organization as the essential variable that it maintains constant all the states that it can adopt without disintegration are equivalent in that they all necessarily lead to the maintenance of its organization. The product of the operation of an autopoietic system as autopoietic system is, under all circumstances, itself. Therefore, autopoietic systems are, by their constitution, closed systems without inputs or outputs. They can be perturbed by independent events, but the changes that they undergo as a result of these perturbations, as well as the relations of autopoiesis that these changes generate, occur, by their constitution, as internal states of the system regardless of the nature of the perturbation. An observer may treat an autopoietic system as if it were an allopoietic one by considering the perturbing agent as input and the changes that the organism undergoes while maintaining its autopoiesis as output. This treatment, however, disregards the organization that defines the organism as a unity by putting it in a context in which a part of it can be defined as an allopoietic subsystem by specifying in it input and output relations.

From these considerations, it follows that since we are living systems all our phenomenology as individuals is subordinated to our autopoiesis, otherwise we disintegrate; therefore, as individuals we are closed systems. It also follows that cognition as a phenomenon of the individual is subordinated to the autopoiesis of the knower, and that all cognitive states as states of the knower are determined by the way its autopoiesis is realized, not by the
ambient circumstances in which this takes place. Cognition is constitutively a subject dependent phenomenon. The changes of state that the autopoietic system undergoes while compensating for perturbations can be treated by an observer, who sees it in a context (environment), as actions exerted by the organism on the environment, and he can attach to them operational meaning in relation to the perturbing circumstances that he sees acting upon the organism. Such meaning, however, lies exclusively in the descriptive domain of the observed organism as an autopoietic system.

**Statement 2.** The nervous system is a closed network of lateral, parallel, sequential and recursively interacting neurons.

**Comment:** The closed organization of the nervous system is apparent in its changes of state. In fact, operationally the nervous system is a closed network of interacting neurons such that a change in the state of relative activity of a group of neurons always leads to a change in the state of relative activity of other groups of neurons, either directly through synaptic action, or indirectly through the participation of some physical or chemical intervening element. Therefore, the organization of the nervous system as a finite neuronal network is defined by relations of closeness in the neuronal interactions generated in the network. Sensory and effector neurons, as they would be described by an observer who sees an organism in an environment, are not an exception to this because all sensory activity in an organism leads to activity in its effector surfaces, and all effector activity in turn leads to changes in its sensory surfaces. That at this point an observer should see environmental elements intervening between the effector and the sensory surfaces of the organism is irrelevant because the nervous system is defined as a network of neuronal interactions by the interactions of its component neurons regardless of any intervening elements. Therefore, as long as the neuronal network closes onto itself, its phenomenology is the phenomenology of a closed system in which neuronal activity always leads to neuronal activity. This is so even though the ambient can perturb the nervous system and change its states by coupling to it as an independent agent at any neuronal receptor surface. The changes that the nervous system can undergo without disintegration (loss of defining relations) as a result of these or of any other perturbations are fully specified by its connectivity, and the perturbing agent only constitutes a historical determinant for the occurrence of these changes. As a closed neuronal network the nervous system has no input or output, and there is no intrinsic feature in its organization that would allow it to discriminate, through the dynamics of its changes of state, between possible internal or external causes for these changes of state. This has two fundamental consequences:

i) The phenomenology of the changes of state of the nervous system is exclusively the phenomenology of the changes of state of a closed neuronal network. This means that for the nervous system as a neuronal network there is no inside or outside.

ii) The distinction between internal and external causes in the origin of the changes of state of the nervous system can only be made by an observer who sees the organism (or the nervous system) as a unity and defines its inside and outside by specifying its boundaries.

It follows that it is only with respect to the domain of interactions of the organism as a unity that the changes of state of the nervous system may have an internal or an external origin, and, hence, that the history of causes for the changes of state of the nervous system lies in a phenomenological domain different from the changes of state themselves. To the extent that no distinction can be made through the activity of the nervous system between its internally and its externally generated states, no distinction is possible through the activity of the nervous system between perception and hallucination. Such a distinction can only be made by an observer who sees the organism and its environment, because it is he who establishes a relation between a change of state of the nervous system and the environmental circumstances in which this change of state takes place. Hallucinations pertain to the domain of observation, not to the domain of experiences. There are two additional considerations to be made:

i) Whatever the circumstances under which there is a change in the neuronal relative activity in the nervous system of an observed organism, all that the observed nervous system can do is to generate new states of neuronal relative activity that will recursively generate new states of neuronal relative activity and so on.

ii) The nervous system in its operation as a closed neuronal network does not act upon the environment. In fact, the environment does not exist for the operation of the nervous system, it exists only for an observer, and it is only for him and in his domain of description that any action upon the environment can take place. It follows that it is only for an observer that the different states of the nervous system can be construed as representations of the environment of the organism, and that representations play no role in the operation of the nervous
system as a neuronal network. However, although representations pertain to the domain of observations only, they reflect in this domain a coupling of the closed phenomenology of the nervous system with the independent (open or closed) phenomenology of the ambient.

**Statement 3.** The nervous system is coupled to the organism that it integrates in a manner such that its plastic connectivity is continuously being determined through its participation in the autopoiesis of the organism. Therefore, the connectivity of the nervous system is coupled to the history of interactions of the organism to which it is coupled.

**Comment:** The coupling of the nervous system and the organism takes place in three ways, all of which result in the subordination of its connectivity to the ontogeny of the organism:

i) The organism, including the nervous system, provides the physical and biochemical environment for the autopoiesis of the neurons (as well as for all other cells), and, hence, is a source of physical and biochemical perturbations that may alter (even through the control of aenetic expression) the properties of the neurons and, thus, lead to ii) or iii).

ii) There are states of the organism (physical and biochemical) that change the state of activity of the nervous system by acting upon the receptor surfaces of some of its component neurons, and, thus, lead to iii).

iii) There are states of the nervous system that change the states of the organism (physical and biochemical) and, thus, lead recursively to i) and to ii).

Due to its coupling with the organism, the nervous system necessarily participates in the generation of the relations that constitute the organism as an autopoietic unity. Also, due to this coupling, the organization of the nervous system is necessarily continuously determined and realized through the generation of neuronal relations internally defined with respect to the nervous system itself. As a consequence, the nervous system necessarily operates as a homeostatic system that maintains invariant the relations that define its participation in the autopoiesis of the organism, and does so by generating neuronal relations that are historically determined along the ontogeny of the organism through its participation in this ontogeny. This has the following implications.

i) The changes that the nervous system undergoes as a homeostatic system while compensating for deformations, which it suffers as a result of the interactions of the organism (itself a homeostatic system), cannot be localized to any single point in the nervous system, but must be distributed through it in a non-random manner, because any localized change is, in itself, a source of additional deformations that must be compensated for by further changes. This process is potentially endless. As a result, the operation of the nervous system as a component of the organism is a process of continuous generation of significant neuronal relations, and all the transformations that it may undergo as a closed neuronal network are subordinated to this. If, as a result of a perturbation, the nervous system fails in the generation of the neuronal relations significant for its participation in the autopoiesis of the organism, the organism disintegrates.

ii) Although the organism and the nervous system are closed atemporal systems, the fact that the organization of the nervous system is determined through its participation in the ontogeny of the organism makes this organization a function of the circumstances that determine this ontogeny, that is, of the history of interaction of the organism as well as of its genetic determination. Therefore, the domain of the possible states that the nervous system can adopt as an atemporal system is at any moment a function of this history of interaction, and without representing it implies it. The result is the coupling of two constitutively different phenomenologies, the phenomenology of the nervous system (and organism) as a closed homeostatic system, and the phenomenology of the ambient (including the organism and the nervous system) as an open non-homeostatic system that are thus woven together in a manner such that the domain of possible states of the nervous system continuously becomes commensurate with the domain of possible states of the ambient. Furthermore, since all the states of the nervous system are internal states, and the nervous system cannot make a distinction in its processes of transformation between its internally and externally generated changes, the nervous system is bound to couple its history of transformations as much to the history of its internally determined changes as to the history of its externally determined changes of state. Thus, the transformations that the nervous system undergoes during its operation are a constitutive part of its ambient.

iii) The historical coupling of the nervous system to
the transformations of its ambient, however, is ap-
parent only in the domain of observation, not in the
domain of operation of the nervous system, which
remains a closed homeostatic system in which all
states are equivalent to the extent that they all lead
to the generation of the relations that define its par-
ticipation in the autopoiesis of the organism. The
observer can see that a given change in the organ-
ization of the nervous system arises as a result
of a given interaction of the organism, and he can
consider this change as a representation of the cir-
cumstances of the interaction. This representation,
however, as phenomenon, exists only in the do-
main of observation, and has a validity that applies
only to the domain generated by the observer as
he maps the environment onto the behaviour of the
organism by treating it as an allopoietic system.
The change referred to in the organization of the
nervous system constitutes a change in the domain
of its possible states under conditions in which the
representation of the causing circumstances do not
enter as component.

iv) Through this coupling, the ontogeny of the organ-
ism is a function of the operation of the nervous
system, and, since the properties of the neurons
(as determined by their internal organization and
morphology) are a function of the ontogeny of the
organism, the nervous system participates in the
specification of its component neurons. Further-
more, since the properties of the neurons deter-
mine the connectivity of the nervous system, this
participates through them in the specification of
its own connectivity. Therefore, through this cou-
pling the connectivity of the nervous system is a
function of the ontogeny of the organism. Finally,
since the closed phenomenology of the organism’s
autopoiesis is coupled to the phenomenology of the
ambient: through its compensation for perturba-
tions, the ontogeny of the organism is a func-
tion of the organism’s history of interaction, and,
therefore, the connectivity of the nervous system
is a function of this history. It follows that the con-
nectivity of the nervous system changes along the
ontogeny of the organism, coupled to the changes
in the way in which the autopoiesis of the organ-
ism is realized.

v) Since history as a phenomenon is accessible to the
observer only in the domain of descriptions, it is
only in this domain that history participates in the
generation of the observer’s behaviour. This, in
fact, takes place. Descriptions as linguistic be-

D. Subject dependent knowledge and
the unity and diversity of man.

Conclusion 1. Men as members of a single species par-
take of the same pattern of genetically determined orga-
nization, both in their general mode of autopoiesis and in
the architecture of their nervous systems. This structural
unity constitutes the basis for any cultural unity.

Comment: The genetic unity of man determines the
domain within which are realized the individual vari-
ations in the human mode of autopoiesis and in the human
mode of connectivity of the nervous system. Which par-
ticular autopoiesis and which particular connectivity of
the nervous system are actually realized in each man de-

deps, however, on the particular circumstances of each
ontogeny. Therefore, if the individual histories of differ-
ent men resemble each other, their autopoiesis and neu-
onal connectivities will undergo transformations that are
commensurate with their similar modes of life. They will
have similar modes of conduct under similar perturba-
tions: their cognitive domains will be similar. A culture,
then, is by necessity a historical system of relations that

nervous system, and, hence, part of its ambient.
Accordingly, the phenomenology of transforma-
tion of the nervous system discussed above also
applies to the interactions of the organism in the
domain of descriptions, and the structure of the
nervous system is also a function of the history of
interaction of the organism in this domain. The im-

lications are obvious. All elements of the domain
of descriptions, even though they do not repre-
sent states of the nervous system, constitute causal
components in the domain of behaviour of the or-

ganism; such is the case, for example, with notions
like beauty, freedom and dignity. They arise, as
dimensions in the domain of behaviour of the or-

ganism through distinctions in this domain, from
the coupling of the phenomenology of the nervous
system and the domain of interactions of the or-

ganism, and have, therefore, behavioural value.

vi) As an evolutionary consequence of the constitutive
coupling of the nervous system and the organism,
the genetically determined architecture of the ner-
vous systems of different species is different. Yet
due to this same coupling, the actual connectivity
of the nervous system that is realized in each indi-

dividual of a species, within its genetically deter-

mined range of possibilities, is specified along its
ontogeny through its history of interaction.
Conclusion 2. Cultural differences do not represent different modes of treating the same objective reality, but legitimately different cognitive domains. Culturally different men live in different cognitive realities that are recursively specified through their living in them.

Comment: To the extent that cognition is a subject dependent process, an individual can only exist in the cognitive reality specified by his particular mode of autoioseis and neuronal connectivity. It is, therefore, a mistake to talk of any cultural limitation in the cognitive access to an objective reality. This simply does not exist. Also, there is no objective notion by which any culture can be deemed more adequate than another. Values are necessarily relative to the culture in which they arise, and cultures are necessarily relative to their own histories. Furthermore, all cultures are necessarily successful in the predictive domain that they define, and to accuse any one culture of failure from the perspective of another culture is an error. Cultural differences, then, are legitimate and must be respected, because they represent completely valid cognitive domains, not because they are human expressions.

Conclusion 3. The problem of the cultural unity of man is not a problem of learning a single valid cognitive approach to an objective reality, but is the problem of generating a common subject dependent behavioural domain that defines a common subject dependent reality.

Comment: If there is no possibility of objective knowledge, this should not be taken as a guide to our conduct. If human cognitive diversity is the result of different ontogenies, the problem of human unity is the problem of generating an experiential domain which will lead to similar ontogenies. Societies, by constituting the ambient in which a man lives, restrict and determine his domain of possible experiences; conversely, men constitute societies and specify their nature through their conduct. Thus, men, through the society that they integrate constitute a cultural system as a homeostatic system that maintains the unity of the cognitive domains of its members by specifying both their concrete and their conceptual experiences. Therefore, the problem of the cultural unity of man is the creation of the conditions that define a collection of human beings as a cultural unity. This can be attained in a non-coercive manner only by defining a fundamental aim valid for all men through their biological unity such that its pursuit leads to experiences that make these men desire its aim.

E. Cognitive strategies.

In coming to the end of this series of considerations, the statement of our problems seems very similar to what it would have been at the beginning. Our understanding of it, however, is, I hope, different. In fact, since we cannot talk about an objective reality, we must recognize that all reality is subject dependent, and if we do that, three things should be apparent:

1. Science is not a domain of objective knowledge, but a domain of subject dependent knowledge defined by a methodology that specifies the properties of the knower. In other words, the validity of scientific knowledge rests on its methodology, which specifies the cultural unity of the observers, not in its being a reflection of an objective reality, which it is not. The implications are clear:

   i) For epistemological reasons that arise in the culturally unified cognitive domain of our scientific thought, we need a substratum for existence, yet we cannot make any objective statement about this substratum because such a statement would arise in our subject dependent cognitive domain.

   ii) The question of solipsism arises only as a pseudo-problem, or does not arise at all, because the necessary condition for our possibility of talking about it is our having a language that is a consensual system of interactions in a subject dependent cognitive domain, and this condition constitutes the negation of solipsism.

2. The problem of the cultural unity of man is not a problem of knowledge but a problem in the use of knowledge, therefore an ethical problem. Objective knowledge does not exist, consequently there is no basis for human cultural unity other than our desire to have such for reasons having to do with us as men. The reasons are clear. In our subject dependent cognitive domain there are grounds for viewing all men as equivalent: we recognize each other experientially (sexual recognition) as members of the same species. This is unavoidably knowledge because it is bound to our definition as men. As a result there are some of us who want this biological unity to be cultural as well as in reference to the conditions of existence. There are others whose wants are otherwise, and want the
cultural diversity to represent a biological discontinuity. In either case we make an ethical choice; which way we choose, however, depends on our personal history of experiences, and, therefore, on our individual cognitive domain.

3. A decision is a choice between several alternative actions that is determined by relations proper to a domain different (a meta-domain) from the domain in which the alternative actions take place, and from the perspective of which the several possible actions are not equivalent. Therefore, from the perspective of the domain in which the actions take place the choice of one of them is an expression of preference, an arbitrary action in that domain, \textit{i.e.}, an action with a meta-determination. Yet, reason is compelling. Given a set of premises as a starting point the outcome of an argument is determined; no alternative arises and no decision is ever made along it. If no mistake is committed the result of the argument can be rejected by an observer only because he does not like it, or because he does not accept the starting premises, and in either case the rejection has a meta-determination.

Ethical decisions are expressions of preference in the face of alternative actions that affect the lives of other human beings, and as such they are not determined by the knowledge of the consequences of the preferred action, but by the desire that the consequences of that action take place. Yet, for every human being, his subject dependent domain of alternatives over which he projects the world that he wants to validate with his actions. Therefore, although knowledge does not and cannot determine an ethic, ethics as a domain of preference determines the use of knowledge. Thus, we cannot escape the conclusion that the possibility of cultural unity in man rests exclusively on the possibility that all men may have the same ethic, and, hence on the possibility of creating for all men a common domain of experiences that should give rise in them to similar ethical preferences. The attainment of cultural (ethical) unity in man, then, is not a problem for science as we usually understand it, but is a problem in the art of living.

Many times in the course of human history men have tried to attain ethical unity through religious and political doctrines. These, however, are systems designed to reduce the individual variability of the human beings as social members by specifying their domains of experiences and by forcing them through well defined hierarchical relations that end with the subordination of men to men; to acquire the structures that determine in them the desired modes of conduct (ethics). This has led to the world of oppression, exploitation and self-delusion in which we presently live. The question remains, however, of whether it is possible to obtain in man an ethical unity that denies human oppression. Which experiences should we choose for ourselves as well as for other human beings so that, as a result of them, we all want, consciously and unconsciously, to generate with our conduct a society in which no man is systematically restricted by or subordinated to other men, and to generate such a society by means that do not negate this desired end, however complex and changing this society may be?

The answer is not easy. Due to the nature of our cognitive domain, we can always enlarge or restrict this domain through our experiences, and one of the things we westerners can always do is to conceptually step out of our social system and look at it. This is in itself an experience that may change a man’s ethic and transform him into a revolutionary, that is, into a man whose ethic is different from that implied by his social system, and who negates such a social system by validating a different one with his conduct. Ethical change leads to revolution. It is for this reason that coercive societies, through economic, religious, political and military coercion, deny their members the possibility of being observers of their own social system, and, hence, of changing it towards a more desirable one.

**DESIRE**

The spontaneous ontogenic course of a biological unity is always towards the stabilization of the relations that define it as a unity, that is, towards the stabilization of the hierarchical relations that hold between its components. This implies either an ontogenic stabilization of the properties of the components, or the ontogenic development of processes that make the components dispensable when their properties have changed, or both. The first case is undesirable because it implies the negation of man as an observer (totalitarian societies), that is, a negation of man as a social component who can step out of the system that he integrates and judge it ethically. The second case is undesirable because it negates our experiential feeling of being the centers of all cognitive processes (mercantile society), and makes our individual lives miserably alienated. Both are undesirable because conjointly they deny man. To believe that the spontaneous course of transformation of a society as a biological unity may lead to a non-oppressive system that does not negate the individual is, biologically, a delusion. Such a social system can only be obtained as an artifice of human creativity, and this by considering all individuals significant, through making the social system that they constitute in their coupling a non-hierarchical allopoietic system, designed to make their lives humanly desirable. Is this possible? My
answer is yes, it can be done, but only by agreeing to continuously seek to generate a finite non-hierarchical society in a finite ecologically stable earth, by steps which do not deny the desired end. In other words, I think that such a society can be obtained by agreeing to continuously seek to generate:

i) a society that continuously negates and destroys any political, economical or cultural institution for the subordination of man to man in any possible form;

ii) a society that seeks to change its institutions following the changing material, aesthetic and spiritual ways in which the biological needs and cultural desires of all human beings are satisfied, because social institutions are instruments to be used by men to satisfy their needs and desires, and not entities to be maintained by them;

iii) a society that continuously seeks to become non-hierarchical, because its members accept the possibility of error and recognize that anything that leads to an increased difference between the present human hierarchical relations and the desired non-hierarchical ones is a mistake;

iv) a society whose members understand that they live on a finite earth, and that their biological existence is coupled to the ecological stability of this finite earth;

v) a society whose members understand that the natural course of all plastic biological systems is towards the stabilization of the hierarchical relations that determine their unity, and that non-hierarchical society is an artificial biological system produced by man that can never be obtained as a stable system, but which must be continuously produced as an always regenerated approximation to that state. Furthermore, I think that such a society can only be obtained if the following operational conditions are fulfilled:

1) Population stability, which is a necessary condition for an absolute accumulation of material well-being, uniformly distributed among all human beings, and for the possibility of agreeing on a common purpose that is not the individual accumulation of wealth and power, which by generating hierarchical relations intrinsically negate the possibility of a non-hierarchical society.

2) A population size which is the minimal population that allows for an interesting and diversified life for everyone on an ecologically stable earth, and for a real-time access of every member of the society to the information, knowledge, and possibility of decision that its operation as a system continuously generated through the ethical decisions of its members requires.

If we indeed desire to generate such a non-hierarchical society, we must start from our present day societies and modify them in a manner that does not negate the desired end, even if we do not know which form it will adopt in terms of its changing institutions, for a non-hierarchical society cannot be obtained by processes that increase hierarchical relations. A system can only be destroyed by denying the relations that constitute it, and, conversely, a system can be generated only by implementing the relations that do constitute it. There is no other possibility. Therefore, for man to generate a new society he must generate new interpersonal relations, and to do so he must change his cognitive domain. Accordingly, only if men want to live in non-hierarchical society in which everybody has real-time access to an interesting and satisfactory life will they create it, otherwise they will not. However, it is not the historical circumstance in which we now live, nor the laws of nature (for economic laws are an arbitrary human creation), nor lack of sociological imagination that limits us in the effort of creating a non-hierarchical utopia, it is our reluctance to abandon our culturally learned and deeply cherished joy of forcing other human beings to accept our pretended superiority. This is why unending discussions about the means to obtain a given end betray the lack of commitment to obtain that end. An end always specifies means to obtain it that do not negate it, but no agreement about ends is possible between members of different social systems if they do not change their ethic so as to coincide in a meta-level of identity. Social change can only arise from ethical change, therefore, a social revolution is first of all a cultural revolution.

Two Remarks

1. The terms “structure” and “organization” are synonyms to the extent that both make reference to relations existing between components in a system. Yet, there are some connotational differences between the two terms, which are linked to their different ethnological origin, and which are worthwhile emphasizing because they allude to two different aspects of the constitution of a system. “Structure” comes from the Latin word *struere*, a verb that means to build. Thus, in agreement with this origin, the work “structure” refers both to that which is built and to the way in which its particular components
are put together while making it a whole. In other words, the term “structure” emphasizes the relations between the parts which as well as the identity of the parts which constitute a whole. As a consequence, two systems have the same structure if they have equivalent relations between equivalent components. Accordingly, the structural analysis in a given phenomenological domain (culture, for example), attempts at the discovery of universals both in the components and in the relations between the components in different phenomena of the domain. The word organization has a different ethnological origin; it comes from the Greek word ὀργανικός (organon), which means instrument, and makes reference to the function or role that a component has in the constitution of a whole. Accordingly, the word “organization”, as distinct from the word “structure”, emphasizes the relations that define a system as a unity (and thus determine its properties), with no reference to the nature of the components, which can be any at all, as long as they satisfy these relations. Therefore, two systems have the same organization if the relations that define them as unities are the same, regardless of how these relations are obtained, and, accordingly, two systems that have the same organization may have different structures. Also, since two systems are equivalent only if they have the same organization, it follows that if the organization of a system changes, the identity of the system changes and it becomes a different one, a new unity with different properties. Conversely, if the organization of a system stays invariant while its structure changes, the system remains the same and its identity stays unchanged. Strictly, then, the identity of a system is determined by its organization and remains unchanged as long as this remains unchanged, regardless of whether the system is static or dynamic and regardless of whether the structure of the system changes or not. In the context of this distinction between the two terms “structure” and “organization”, it is easy to see that there are two kinds of dynamic (mechanistic) systems: those whose organization remains invariant as long as the product they produce remains the same, the allopoietic systems; and those that are the product of their own operation and whose organization remains invariant as they produce themselves, the autopoietic systems. It is also apparent that the organization of a system defines it as a unity for any space, while its structure constitutes it as a concrete entity in the space of its components. Thus, living systems are autopoietic systems in the physical space (see Cognitive Strategies), and, as such, the turn-over of matter that they undergo continuously, and the change in structure that takes place in them as a result of development and learning occur without loss of identity in the physical space. It is interesting to note, however, that although we make these connotational distinctions in the use of the terms “structure” and “organization”, we are usually unaware of them and thus do not realize that the organization of a system is by necessity an invariant, and we talk about changes of organization without realizing that such changes imply a change of system. This is because as observers we operationally identify a system in the physical space by perceptual distinctions that arise from our interactions with its components, and not from our recognition of its organization, and, accordingly, consider the system the same while its components remain invariant, regardless of whether its organization changes or not. This confusion of structure with organization, however, is not a severe operational problem when dealing with living systems as unities because these, as autonomous systems, assert their identity through their autopoietic organization in the physical space and force us to recognize it as long as they are alive, even if they are mutilated. Yet, this confusion has obscured the understanding that a whole is a unity whose particular properties are generated by the way it is constituted and not by the properties of its components.

2. Although the nervous system is organized as a closed neuronal network, we can describe it as if it were an open system when we observe the organism in its interactions with the environment. For the following reasons this contradiction is only an apparent one:

1) Every closed system can be made to appear open without altering its organization, and, therefore, without interfering with its operation, by a structural change that consists in cutting it at some point and replacing the direct connection between the two artificially generated ends by an intervening device that allows the continued operation of the system and the observation of the two artificial ends as if they were intrinsically disconnected. When this is done, although the organization of the system is not changed, the system appears open to the observer. This is what in fact happens when we observe the nervous system of an organism, and we concern ourselves only with the cut ends, because we stand in the environment that intervenes between the organisms effector and sensory surfaces without altering the relations that define the nervous system as a closed network. The changes of state that the nervous system undergoes as a neuronal network always arise as changes in the relations of activity of its constituting neurons, and always give origin to new relations of neuronal activity, whatever the environmental circumstances that allow for the closure of the system at the level of its effector and sensory surfaces. The fact that the changes of state of the nervous system are ade-
A problem is a question. A question is a perturbation. Therefore, to solve a problem is to answer a question in the same domain in which it is asked. An allopoietic system solves a problem posed by an observer when it changes its states in a manner that satisfies the criteria imposed by the observer through the formulation of his question. For autopoietic systems the problem solving situation is different only to the extent that in them all phenomena are phenomena of autopoiesis, and any question put to them is necessarily a question in that domain. This is so notwithstanding the fact that the observer can treat an autopoietic system as an allopoietic one, and thus define additional domains in which he can specify questions and their solution. These latter domains, however, exist only in parallel with the autopoietic domain of the questioned system, and only for the coupled system that this forms with the observer. Strictly, then, an autopoietic system solves a problem as a system if the changes that it undergoes as a result of the interactions that constitute the problem allow it to continue to operate as an autopoietic system: that is, without loss of identity. As a consequence, and by constitution, autopoietic systems always have solutions for the interactions (problems) that do not destroy them: they cannot but undergo homeostatic changes that compensate for the perturbations generated by the interactions, for otherwise they disintegrate and the problems prove unsolvable.

It is in this sense only that the nervous system, defined as a system both by its closedness and by its participation in the autopoiesis of the organism that it integrates, participates in the solution of the problems that the organism has to solve. For this to take place, however, it is not necessary that there should be a representation of the environment in the nervous system as an operant factor in the determination of behaviour. In fact, since the solution to a problem need have validity only for the organism that faces it, and not for the observer, a given change of state of the perturbed organism is a solution to a problem only if it allows the organism to maintain its identity. Since the changes of state of the organism (the nervous system included) are determined by its structure, and not by the environment, a representation, which is a relation established by the observer, cannot enter as a factor in the determination of the behaviour of the organism. However, if the observer treats the nervous system as an open system (open network) designed to operate upon an environment, he must view its structure as a representation of the environment in order to explain the adaptive behaviour of the organism, and not as a homeostatic system that maintains constant certain relations of neuronal activity that have become specified by the historical coupling of its structure to the autopoiesis of the organism.
With such an approach the observer cannot do otherwise because he handles the nervous system in terms of design, and, hence, as isomorphic to his description of his own operation. Yet, to do this is as gross an error as to claim that a representation of a road is a causal factor in the operation of a running automobile. Therefore, notions of representation and of coding of information have validity only for describing the interactions of the observer with the observed organism when he considers the nervous system as an open system, and not for the characterization of its organization as a neuronal network. In other words, the observer, who sees the organism in its interactions with the environment, can treat the changes that the organism undergoes as representations of the circumstances of its interactions, and describe it in these terms, but by doing this he describes a system different from the one that the organism with its nervous system is.

Computer graphic by Herbert Brün
This paper is written in three main sections. In the first and third, W. W. is responsible both for the ideas and the form. The middle section, namely “2) Communication Problems at Level A” is an interpretation of mathematical papers by Dr. Claude E. Shannon of the Bell Telephone Laboratories. Dr. Shannon’s work roots back, as von Neumann has pointed out, to Boltzmann’s observation, in some of his work on statistical physics (1894), that entropy is related to “missing information,” inasmuch as it is related to the number of alternatives which remain possible to a physical system after all the macroscopically observable information concerning it has been recorded. L. Szilard (Zsch. f. Phys. Vol. 53, 1925) extended this idea to a general discussion of information in physics, and von Neumann (Math. Foundation of Quantum Mechanics, Berlin, 1932, Chap. V) treated information in quantum mechanics and particle physics. Dr. Shannon’s work connects more directly with certain ideas developed some twenty years ago by H. Nyquist and R. V. L. Hartley, both of the Bell Laboratories; and Dr. Shannon has himself emphasized that communication theory owes a great debt to Professor Norbert Wiener for much of its basic philosophy. Professor Wiener, on the other hand, points out that Shannon’s early work on switching and mathematical logic antedated his own interest in this field; and generously adds that Shannon certainly deserves credit for independent development of such fundamental aspects of the theory as the introduction of entropic ideas. Shannon has naturally been specially concerned to push the applications to engineering communication, while Wiener has been more concerned with biological application (central nervous system phenomena, etc.).

1. Introductory Note on the General Setting of the Analytical Communication Studies

1.1 Communication

The word communication will be used here in a very broad sense to include all of the procedures by which one mind may affect another. This, of course, involves not only written and oral speech, but also music, the pictorial arts, the theatre, the ballet, and in fact all human behavior. In some connections it may be desirable to use a still broader definition of communication, namely, one which would include the procedures by means of which one mechanism (say automatic equipment to track an airplane and to compute its probable future positions) affects another mechanism (say a guided missile chasing this airplane).

The language of this memorandum will often appear to refer to the special, but still very broad and important, field of the communication of speech; but practically everything said applies equally well to music of any sort, and to still or moving pictures, as in television.

1.2 Three Levels of Communications Problems

Relative to the broad subject of communication, there seem to be problems at three levels. Thus it seems reasonable to ask, serially:

LEVEL A. How accurately can the symbols of communication be transmitted? (The technical problem.)
LEVEL B. How precisely do the transmitted symbols...
convey the desired meaning? (The semantic problem.)

**LEVEL C.** How effectively does the received meaning affect conduct in the desired way? (The effectiveness problem.)

The *technical problems* are concerned with the accuracy of transference from sender to receiver of sets of symbols (written speech), or of a continuously varying signal (telephonic or radio transmission of voice or music), or of a continuously varying two-dimensional pattern (television), etc. Mathematically, the first involves transmission of a finite set of discrete symbols, the second the transmission of one continuous function of time, and the third the transmission of many continuous functions of time or of one continuous function of time and of two space coordinates.

The *semantic problems* are concerned with the identity, or satisfactorily close approximation, in the interpretation of meaning by the receiver, as compared with the intended meaning of the sender. This is a very deep and involved situation, even when one deals only with the relatively simpler problems of communicating through speech.

One essential complication is illustrated by the remark that if Mr. X is suspected not to understand what Mr. Y says, then it is theoretically not possible, by having Mr. Y do nothing but talk further with Mr. X, completely to clarify this situation in any finite time. If Mr. Y says “Do you now understand me?” and Mr. X says “Certainly, I do,” this is not necessarily a certification that understanding has been achieved. It may just be that Mr. X did not understand the question. If this sounds silly, try it again as “Czy pafi mnie rozumie?” with the answer “Hai wakkate imasu.” I think that this basic difficulty is, at least in the restricted field of speech communication, reduced to a tolerable size (but never completely eliminated) by “explanations” which (a) are presumably never more than approximations to the ideas being explained, but which (b) are understandable since they are phrased in language which has previously been made reasonably clear by operational means. For example, it does not take long to make the symbol for “yes” in any language operationally understandable.

The semantic problem has wide ramifications if one thinks of communication in general. Consider, for example, the meaning to a Russian of a U.S. newsreel picture.

The *effectiveness problems* are concerned with the success with which the meaning conveyed to the receiver leads to the desired conduct on his part. It may seem at first glance undesirably narrow to imply that the purpose of all communication is to influence the conduct of the receiver. But with any reasonably broad definition of conduct, it is clear that communication either affects conduct or is without any discernible and probable effect at all.

The problem of effectiveness involves aesthetic considerations in the case of the fine arts. In the case of speech, written or oral, it involves considerations which range all the way from the mere mechanics of style, through all the psychological and emotional aspects of propaganda theory, to those value judgments which are necessary to give useful meaning to the words “success” and “desired” in the opening sentence of this section on effectiveness.

The effectiveness problem is closely interrelated with the semantic problem, and overlaps it in a rather vague way; and there is in fact overlap between all of the suggested categories of problems.

### 1.3 Comments

So stated, one would be inclined to think that Level A is a relatively superficial one, involving only the engineering details of good design of a communication system; while B and C seem to contain most if not all of the philosophical content of the general problem of communication.

The mathematical theory of the engineering aspects of communication, as developed chiefly by Claude Shannon at the Bell Telephone Laboratories, admittedly applies in the first instance only to problem A, namely, the technical problem of accuracy of transference of various types of signals from sender to receiver. But the theory has, I think, a deep significance which proves that the preceding paragraph is seriously inaccurate. Part of the significance of the new theory comes from the fact that levels B and C, above, can make use only of those signal accuracies which turn out to be possible when analyzed at Level A. Thus any limitations discovered in the theory at Level A necessarily apply to levels B and C. But a larger part of the significance comes from the fact that the analysis at Level A discloses that this level overlaps the other levels more than one could possibly naively suspect. Thus the theory of Level A is, at least to a significant degree, also a theory of levels B and C. I hope that the succeeding parts of this memorandum will illuminate and justify these last remarks.

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2 When Pfungst (1911) demonstrated that the horses of Elberfeld, who were showing marvelous linguistic and mathematical ability, were merely reacting to movements of the trainer’s head, Mr. Krall (1911), their owner, met the criticism in the most direct manner. He asked the horses whether they could see such small movements and in answer they spelled out an emphatic “No.” Unfortunately we cannot all be so sure that our questions are understood or obtain such clear answers.” See Lashley, K. S., “Persistent Problems in the Evolution of Mind” in *Quarterly Review of Biology*, v. 24, March, 1949, p. 28.

WARREN WEAVER 155 Mathematical Theory of Communication
2. Communication Problems at Level A

2.1 A Communication System and Its Problems

The communication system considered may be symbolically represented as shown above (see diagram on this page).

The information source, selects a desired message out of a set of possible messages (this is a particularly important remark, which requires considerable explanation later). The selected message may consist of written or spoken words, or of pictures, music, etc.

The transmitter changes this message into the signal which is actually sent over the communication channel from the transmitter to the receiver. In the case of telephony, the channel is a wire, the signal a varying electrical current on this wire; the transmitter is the set of devices (telephone transmitter, etc.) which change the sound pressure of the voice into the varying electrical current. In telegraphy, the transmitter codes written words into sequences of interrupted currents of varying lengths (dots, dashes, spaces). In oral speech, the information source is the brain, the transmitter is the voice mechanism producing the varying sound pressure (the signal) which is transmitted through the air (the channel). In radio, the channel is simply space (or the aether, if any one still prefers that antiquated and misleading word), and the signal is the electromagnetic wave which is transmitted.

The receiver is a sort of inverse transmitter, changing the transmitted signal back into a message, and handing this message on to the destination. When I talk to you, my brain is the information source, yours the destination; my vocal system is the transmitter, and your ear and the associated eighth nerve is the receiver.

In the process of being transmitted, it is unfortunately characteristic that certain things are added to the signal which were not intended by the information source. These unwanted additions may be distortions of sound (in telephony, for example) or static (in radio), or distortions in shape or shading of picture (television), or errors in transmission (telegraphy or facsimile), etc. All of these changes in the transmitted signal are called noise.

The kind of questions which one seeks to ask concerning such a communication system are:

a. How does one measure amount of information?

b. How does one measure the capacity of a communication channel?

c. The action of the transmitter in changing the message into the signal often involves a coding process. What are the characteristics of an efficient coding process? And when the coding is as efficient as possible, at what rate can the channel convey information?

d. What are the general characteristics of noise? How does noise affect the accuracy of the message finally received at the destination? How can one minimize the undesirable effects of noise, and to what extent can they be eliminated?

e. If the signal being transmitted is continuous (as in oral speech or music) rather than being formed of discrete symbols (as in written speech, telegraphy, etc.), how does this fact affect the problem?

We will now state, without any proofs and with a minimum of mathematical terminology, the main results which Shannon has obtained.

2.2 Information

The word information, in this theory, is used in a special sense that must not be confused with its ordinary...
usage. In particular, information must not be confused with meaning.

In fact, two messages, one of which is heavily loaded with meaning and the other of which is pure nonsense, can be exactly equivalent, from the present viewpoint, as regards information. It is this, undoubtedly, that Shannon means when he says that “the semantic aspects of communication are irrelevant to the engineering aspects.” But this does not mean that the engineering aspects are necessarily irrelevant to the semantic aspects.

To be sure, this word information in communication theory relates not so much to what you do say, as to what you could say. That is, information is a measure of one’s freedom of choice when one selects a message. If one is confronted with a very elementary situation where he has to choose one of two alternative messages, then it is arbitrarily said that the information, associated with this situation, is unity. Note that it is misleading (although often convenient) to say that one or the other message conveys unit information. The concept of information applies not to the individual messages (as the concept of meaning would), but rather to the situation as a whole, the unit information indicating that in this situation one has an amount of freedom of choice, in selecting a message, which it is convenient to regard as a standard or unit amount.

The two messages between which one must choose, in such a selection, can be anything one likes. One might be the text of the King James Version of the Bible, and the other might be “Yes.” The transmitter might code these two messages so that “zero” is the signal for the first, and “one” the signal for the second; or so that a closed circuit (current flowing) is the signal for the first, and an open circuit (no current flowing) the signal for the second. Thus the two positions, closed and open, of a simple relay, might correspond to the two messages.

To be somewhat more definite, the amount of information is defined, in the simplest cases, to be measured by the logarithm of the number of available choices. It being convenient to use logarithms to the base 2, rather than common or Briggs’ logarithm to the base 10, the information, when there are only two choices, is proportional to the logarithm of 2 to the base 2. But this is unity; so that a two-choice situation is characterized by information of unity, as has already been stated above. This unit of information is called a “bit,” this word, first suggested by John W. Tukey, being a condensation of “binary digit.” When numbers are expressed in the binary system there are only two digits, namely 0 and 1; just as ten digits, 0 to 9 inclusive, are used in the decimal number system which employs 10 as a base. Zero and one may be taken symbolically to represent any two choices, as noted above; so that “binary digit” or “bit” is natural to associate with the two-choice situation which has unit information.

If one has available say 16 alternative messages among which he is equally free to choose, then since 16 = 2^4 so that log₂16 = 4, one says that this situation is characterized by 4 bits of information.

It doubtless seems queer, when one first meets it, that information is defined as the logarithm of the number of choices. But in the unfolding of the theory, it becomes more and more obvious that logarithmic measures are in fact the natural ones. At the moment, only one indication of this will be given. It was mentioned above that one simple on-or-off relay, with its two positions labeled, say, 0 and 1 respectively, can handle a unit information situation, in which there are but two message choices. If one relay can handle unit information, how much can be handled by say three relays? It seems very reasonable to want to say that three relays could handle three times as much information as one. And this indeed is the way it works out if one uses the logarithmic definition of information. For three relays are capable of responding to 2^3 or 8 choices, which symbolically might be written as 000, 001, 011, 010, 100, 110, 101, 111, in the first of which all three relays are open, and in the last of which all three relays are closed. And the logarithm to the base 2 of 2^3 is 3, so that the logarithmic measure assigns three units of information to this situation, just as one would wish. Similarly, doubling the available time squares the number of possible messages, and doubles the logarithm; and hence doubles the information if it is measured logarithmically.

The remarks thus far relate to artificially simple situations where the information source is free to choose only between several definite messages—like a man picking out one of a set of standard birthday greeting telegrams. A more natural and more important situation is that in which the information source makes a sequence of choices from some set of elementary symbols, the selected sequence then forming the message. Thus a man may pick out one word after another, these individually selected words then adding up to form the message.

At this point an important consideration which has been in the background, so far, comes to the front for major attention. Namely, the role which probability plays in the generation of the message. For as the successive symbols are chosen, these choices are, at least from the point of view of the communication system, governed by probabilities; and in fact by probabilities which are not independent, but which, at any stage of the process, depend upon the preceding choices. Thus, if we are concerned with English speech, and if the last symbol cho-

3When \( m^x = y \), then \( x \) is said to be the logarithm of \( y \) to the base \( m \).
The quantity which uniquely meets the natural requirements that one sets up for “information” turns out to be exactly that which is known in thermodynamics as **entropy**. It is expressed in terms of the various probabilities involved—those of getting to certain stages in the process of forming messages, and the probabilities that, when in those stages, certain symbols be chosen next. The formula, moreover, involves the **logarithm** of probabilities, so that it is a natural generalization of the logarithmic measure spoken of above in connection with simple cases.

To those who have studied the physical sciences, it is most significant that an entropy-like expression appears in the theory as a measure of information. Introduced by Clausius nearly one hundred years ago, closely associated with the name of Boltzmann, and given deep meaning by Gibbs in his classic work on statistical mechanics, entropy has become so basic and pervasive a concept that Eddington remarks “The law that entropy always increases—the second law of thermodynamics—holds, I think, the supreme position among the laws of Nature.”

In the physical sciences, the entropy associated with a situation is a measure of the degree of randomness, or of “shuffledness” if you will, in the situation; and the tendency of physical systems to become less and less organized, to become more and more perfectly shuffled, is so basic that Eddington argues that it is primarily this tendency which gives time its arrow—which would reveal to us, for example, whether a movie of the physical world is being run forward or backward.

Thus when one meets the concept of entropy in communication theory, he has a right to be rather excited—a right to suspect that one has hold of something that may turn out to be basic and important. That information be measured by entropy is, after all, natural when we remember that information, in communication theory, is associated with the amount of freedom of choice we have in constructing messages. Thus for a communication source one can say, just as he would also say it of a thermodynamic ensemble, “This situation is highly organized, it is not characterized by a large degree of randomness or of choice—that is to say, the information (or the entropy) is low.” We will return to this point later, for unless I am quite mistaken, it is an important aspect of the more general significance of this theory.

Having calculated the entropy (or the information, or the freedom of choice) of a certain information source, one can compare this to the maximum value this entropy could have, subject only to the condition that the source continue to employ the same symbols. The ratio of the
actual to the maximum entropy is called the relative entropy of the source. If the relative entropy of a certain source is, say .8, this roughly means that this source is, in its choice of symbols to form a message, about 80 per cent as free as it could possibly be with these same symbols. One minus the relative entropy is called the redundancy. This is the fraction of the structure of the message which is determined not by the free choice of the sender, but rather by the accepted statistical rules governing the use of the symbols in question. It is sensibly called redundancy, for this fraction of the message is in fact redundant in something close to the ordinary sense; that is to say, this fraction of the message is unnecessary (and hence repetitive or redundant) in the sense that if it were missing the message would still be essentially complete, or at least could be completed.

It is most interesting to note that the redundancy of English is just about 50 per cent,\(^4\) so that about half of the letters or words we choose in writing or speaking are under our free choice, and about half (although we are not ordinarily aware of it) are really controlled by the statistical structure of the language. Apart from more serious implications, which again we will postpone to our final discussion, it is interesting to note that a language must have at least 50 per cent of real freedom (or relative entropy) in the choice of letters if one is to be able to construct satisfactory crossword puzzles. If it has complete freedom, then every array of letters is a crossword puzzle. If it has only 20 per cent of freedom, then it would be impossible to construct crossword puzzles in such complexity and number as would make the game popular. Shannon has estimated that if the English language had only about 30 per cent redundancy, then it would be possible to construct three-dimensional crossword puzzles.

Before closing this section on information, it should be noted that the real reason that Level A analysis deals with a concept of information which characterizes the whole statistical nature of the information source, and is not concerned with the individual messages (and not at all directly concerned with the meaning of the individual messages) is that from the point of view of engineering, a communication system must face the problem of handling any message that the source can produce. If it is not possible or practicable to design a system which can handle everything perfectly, then the system should be designed to handle well the jobs it is most likely to be asked to do, and should resign itself to be less efficient for the rare task. This sort of consideration leads at once to the necessity of characterizing the statistical nature of the whole ensemble of messages which a given kind of source can and will produce. And information, as used in communication theory, does just this.

Although it is not at all the purpose of this paper to be concerned with mathematical details, it nevertheless seems essential to have as good an understanding as possible of the entropy-like expression which measures information. If one is concerned, as in a simple case, with a set of \(n\) independent symbols, or a set of \(n\) independent complete messages for that matter, whose probabilities of choice are \(p_1, p_2, \ldots, p_n\), then the actual expression for the information is

\[
H = -[p_1 \log_2 p_1 + p_2 \log_2 p_2 + \cdots + p_n \log_2 p_n]
\]

or

\[
H = - \sum p_i \log_2 p_i
\]

where\(^5\) the symbol \(\sum\) indicates, as is usual in mathematics, that one is to sum all terms like the typical one, \(p_i \log_2 p_i\) written as a defining sample.

This looks a little complicated; but let us see how this expression behaves in some simple cases.

Suppose first that we are choosing only between two possible messages, whose probabilities are then \(p_1\) for the first and \(p_2 = 1 - p_1\) for the other. If one reckons, for this case, the numerical value of \(H\), it turns out that \(H\) has its largest value, namely one, when the two messages are equally probable; that is to say when \(p_1 = p_2 = \frac{1}{2}\) that is to say, when one is completely free to choose between the two messages. Just as soon as one message becomes more probable than the other (\(p_1\) greater than \(p_2\), say), the value of \(H\) decreases. And when one message is very probable (\(p_1\) almost one and \(p_2\) almost zero, say), the value of \(H\) is very small (almost zero).

In the limiting case where one probability is unity (certainty) and all the others zero (impossibility), then \(H\) is zero (no uncertainty at all—no freedom of choice—no information).

Thus \(H\) is largest when the two probabilities are equal (i.e., when one is completely free and unbiased in the choice), and reduces to zero when one’s freedom of choice is gone.

The situation just described is in fact typical. If there are many, rather than two, choices, then \(H\) is largest when the probabilities of the various choices are as nearly equal as circumstances permit—when one has as much freedom as possible in making a choice, being as little as possible driven toward some certain choices which have more than their share of probability. Suppose, on the other hand, that one choice has a probability near one

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\(^4\)The 50 per cent estimate accounts only for statistical structure out to about eight letters, so that the ultimate value is presumably a little higher.

\(^5\)Do not worry about the minus sign. Any probability is a number less than or equal to one, and the logarithms of numbers less than one are themselves negative. Thus the minus sign is necessary in order that \(H\) be in fact positive.
so that all the other choices have probabilities near zero. This is clearly a situation in which one is heavily influ-
enced toward one particular choice, and hence has little freedom of choice. And $H$ in such a case does calculate
to have a very small value—the information (the freedom of choice, the uncertainty) is low.

When the number of cases is fixed, we have just seen that then the information is the greater, the more nearly
equal are the probabilities of the various cases. There is another important way of increasing $H$, namely by in-
creasing the number of cases. More accurately, if all choices are equally likely, the more choices there are, the
larger $H$ will be; There is more “information” if you select freely out of a set of twenty-five, than if you select freely out of a set of twenty-five.

### 2.3 Capacity of a Communication Channel

After the discussion of the preceding section, one is not surprised that the capacity of a channel is to be described
not in terms of the number of symbols it can transmit, but rather in terms of the information it transmits. Or better,
since this last phrase lends itself particularly well to a misinterpretation of the word information, the capacity of a channel is to be described in terms of its ability to transmit what is produced out of source of a given information.

If the source is of a simple sort in which all symbols are of the same time duration (which is the case, for ex-
ample, with teletype), if the source is such that each symbol chosen represents $x$ bits of information (being freely chosen from among $2^s$ symbols), and if the channel can transmit, say $n$ symbols per second, then the capacity of $C$ of the channel is defined to be $nx$ bits per second.

In a more general case, one has to take account of the varying lengths of the various symbols. Thus the general expression for capacity of a channel involves the logarithm of the numbers of symbols of certain time duration (which introduces, of course, the idea of information and corresponds to the factor $s$ in the simple case of the pre-
ceeding paragraph); and also involves the number of such symbols handled (which corresponds to the factor $n$ of the preceding paragraph). Thus in the general case, capacity measures not the number of symbols transmitted per second, but rather the amount of information transmitted per second, using bits per second as its unit.

### 2.4 Coding

At the outset it was pointed out that the transmitter accepts the message and turns it into something called the

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*We remember that the capacity $C$ involves the idea of information transmitted per second, and is thus measured in bits per second. The entropy $H$ here measures information per symbol, so that the ratio of $C$ to $H$ measures symbols per second.*

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Mathematical Theory of Communication

Warren Weaver
Now it turns out that when a channel does have certain constraints of this sort, which limit complete signal freedom, there are certain statistical signal characteristics which lead to a signal entropy which is larger than it would be for any other statistical signal structure, and in this important case, the signal entropy is exactly equal to the channel capacity.

In terms of these ideas, it is now possible precisely to characterize the most efficient kind of coding. The best transmitter, in fact, is that which codes the message in such a way that the signal has just those optimum statistical characteristics which are best suited to the channel to be used—which in fact maximize the signal (or one may say, the channel) entropy and make it equal to the capacity $C$ of the channel.

This kind of coding leads, by the fundamental theorem above, to the maximum rate $C/H$ for the transmission of symbols. But for this gain in transmission rate, one pays a price. For rather perversely it happens that as one makes the coding more and more nearly ideal, one is forced to longer and longer delays in the process of coding. Part of this dilemma is met by the fact that in electronic equipment “long” may mean an exceedingly small fraction of a second, and part by the fact that one makes a compromise, balancing the gain in transmission rate against loss of coding time.

2.5 Noise

How does noise affect information? Information is, we must steadily remember, a measure of one’s freedom of choice in selecting a message. The greater this freedom of choice, and hence the greater the information, the greater is the uncertainty that the message actually selected is some particular one. Thus greater freedom of choice, greater uncertainty, greater information go hand in hand.

If noise is introduced, then the received message contains certain distortions, certain errors, certain extraneous material, that would certainly lead one to say that the received message exhibits, because of the effects of the noise, an increased uncertainty. But if the uncertainty is increased, the information is increased, and this sounds as though the noise were beneficial!

It is generally true that when there is noise, the received signal exhibits greater information—or better, the received signal is selected out of a more varied set than is the transmitted signal. This is a situation which beautifully illustrates the semantic trap into which one can fall if he does not remember that “information” is used here with a special meaning that measures freedom of choice and hence uncertainty as to what choice has been made. It is therefore possible for the word information to have either good or bad connotations. Uncertainty which arises by virtue of freedom of choice on the part of the sender is desirable uncertainty. Uncertainty which arises because of errors or because of the influence of noise is undesirable uncertainty.

It is thus clear where the joker is in saying that the received signal has more information. Some of this information is spurious and undesirable and has been introduced via the noise. To get the useful information in the received signal we must subtract out this spurious portion.

Before we can clear up this point we have to stop for a little detour. Suppose one has two sets of symbols, such as the message symbols generated by the information source, and the signal symbols which are actually received. The probabilities of these two sets of symbols are interrelated, for clearly the probability of receiving a certain symbol depends upon what symbol was sent. With no errors from noise or from other causes, the received signals would correspond precisely to the message symbols sent; and in the presence of possible error, the probabilities for received symbols would obviously be loaded heavily on those which correspond, or closely correspond, to the message symbols sent.

Now in such a situation one can calculate what is called the entropy of one set of symbols relative to the other. Let us, for example, consider the entropy of the message relative to the signal. It is unfortunate that we cannot understand the issues involved here without going into some detail. Suppose for the moment that one knows that a certain signal symbol has actually been received. Then each message symbol takes on a certain probability—relatively large for the symbol identical with or the symbols similar to the one received, and relatively small for all others. Using this set of probabilities, one calculates a tentative entropy value. This is the message entropy on the assumption of a definite known received or signal symbol. Under any good conditions its value is zero; in the case where noise was completely absent, for then, the signal symbol being known, all message probabilities would be zero except for one symbol (namely the one received), which would have a probability of unity.

For each assumption as to the signal symbol received, one can calculate one of these tentative message entropies. Calculate all of them, and then average them, weighting each one in accordance with the probability of the signal symbol assumed in calculating it. Entropies calculated in this way, when there are two sets of symbols to consider, are called relative entropies. The particular one just described is the entropy of the message
relative to the signal, and Shannon has named this also the *equivocation*.

From the way this equivocation is calculated, we can see what its significance is. It measures the average uncertainty in the message when the signal is known. If there were no noise, then there would be no uncertainty concerning the message if the signal is known. If the information source has any residual uncertainty after the signal is known, then this must be undesirable uncertainty due to noise.

The discussion of the last few paragraphs centers around the quantity “the average uncertainty in the message source when the received signal is known.” It can equally well be phrased in terms of the similar quantity “the average uncertainty concerning the received signal when the message sent is known.” This latter uncertainty would, of course, also be zero if there were no noise.

As to the interrelationship of these quantities, it is easy to prove that

\[ H(x) - H_s(x) = H(y) - H_s(y) \]

where \( H(x) \) is the entropy or information of the source of messages; \( H(y) \) the entropy or information of received signals; \( H_e(x) \) the equivocation, or the uncertainty in the message source if the signal be known; \( H_e(y) \) the uncertainty in the received signals if the messages sent be known, or the spurious part of the received signal information which is due to noise. The right side of this equation is the useful information which is transmitted in spite of the bad effect of the noise.

It is now possible to explain what one means by the capacity \( C \) of a noisy channel. It is, in fact, defined to be equal to the maximum rate (in bits per second) at which useful information (i.e., total uncertainty minus noise uncertainty) can be transmitted over the channel.

Why does one speak, here, of a “maximum” rate? What can one do, that is, to make this rate larger or smaller? The answer is that one can affect this rate by choosing a source whose statistical characteristics are suitably related to the restraints imposed by the nature of the channel. That is, one can maximize the rate of transmitting useful information by using proper coding (see pages 160 to 161).

And now, finally, let us consider the fundamental theorem for a noisy channel. Suppose that this noisy channel has, in the sense just described, a capacity \( C \), suppose it is accepting from an information source characterized by an entropy of \( H(x) \) bits per second, the entropy of the received signals being \( H(y) \) bits per second. If the channel capacity \( C \) is equal to or larger than \( H(x) \), then by devising appropriate coding systems, the output of the source can be transmitted over the channel with as little error as one pleases. However small a frequency of error you specify, there is a code which meets the demand. But if the channel capacity \( C \) is less than \( H(x) \), the entropy of the source from which it accepts messages, then it is impossible to devise codes which reduce the error frequency as low as one may please.

However clever one is with the coding process, it will always be true that after the signal is received there remains some undesirable (noise) uncertainty about what the message was; and this undesirable uncertainty—this equivocation—will always be equal to or greater than \( H(x) - C \). Furthermore, there is always at least one code which is capable of reducing this undesirable uncertainty, concerning the message, down to a value which exceeds \( H(x) - C \) by an arbitrarily small amount.

The most important aspect, of course, is that the minimum undesirable or spurious uncertainties cannot be reduced further, no matter how complicated or appropriate the coding process. This powerful theorem gives a precise and almost startlingly simple description of the utmost dependability one can ever obtain from a communication channel which operates in the presence of noise.

One practical consequence, pointed out by Shannon, should be noted. Since English is about 50 per cent redundant, it would be possible to save about one-half the time of ordinary telegraphy by a proper encoding process, provided one were going to transmit over a noiseless channel. When there is noise on a channel, however, there is some real advantage in not using a coding process that eliminates all of the redundancy. For the remaining redundancy helps combat the noise. This is very easy to see, for just because of the fact that the redundancy of English is high, one has, for example, little or no hesitation about correcting errors in spelling that have arisen during transmission.

### 2.6 Continuous Messages

Up to this point we have been concerned with messages formed out of discrete symbols, as words are formed of letters, sentences of words, a melody of notes, or a half-tone picture of a finite number of discrete spots. What happens to the theory if one considers continuous messages, such as the speaking voice with its continuous variation of pitch and energy?

Very roughly one may say that the extended theory is somewhat more difficult and complicated mathematically, but not essentially different. Many of the above statements for the discrete case require no modification, and others require only minor change.

One circumstance which helps a good deal is the following. As a practical matter, one is always interested in a continuous signal which is built up of simple harmonic constituents of *not all* frequencies, but rather of frequencies which lie wholly within a band from zero frequency...
to, say, a frequency of $W$ cycles per second. Thus although the human voice does contain higher frequencies, very satisfactory communication can be achieved over a telephone channel that handles frequencies only up to, say four thousand. With frequencies up to ten or twelve thousand, high fidelity radio transmission of symphonic music is possible, etc.

There is a very convenient mathematical theorem which states that a continuous signal, $T$ seconds in duration and band-limited in frequency to the range from 0 to $W$, can be completely specified by stating $2TW$ numbers. This is really a remarkable theorem. Ordinarily a continuous curve can be only approximately characterized by stating any finite number of points through which it passes, and an infinite number would in general be required for complete information about the curve. But if the curve is built up out of simple harmonic constituents of a limited number of frequencies, as a complex sound is built up out of a limited number of pure tones, then a finite number of parameters is all that is necessary. This has the powerful advantage of reducing the character of the communication problem for continuous signals from a complicated situation where one would have to deal with an infinite number of variables to a considerably simpler situation where one deals with a finite (though large) number of variables.

In the theory for the continuous case there are developed formulas which describe the maximum capacity $C$ of a channel of frequency bandwidth $W$, when the average power used in transmitting is $P$, the channel being subject to a noise of power $N$, this noise being “white thermal noise” of a special kind which Shannon defines. This white thermal noise is itself band limited in frequency, and the amplitudes of the various frequency constituents are subject to a normal (Gaussian) probability distribution. Under these circumstances, Shannon obtains the theorem, again really quite remarkable in its simplicity and its scope, that it is possible, by the best coding, to transmit binary digits at the rate of

$$\frac{W \log_2 \left(\frac{P + N}{N}\right)}{N}$$

bits per second and have an arbitrarily low frequency of error. But this rate cannot possibly be exceeded, no matter how clever the coding, without giving rise to a definite frequency of errors. For the case of arbitrary noise, rather than the special “white thermal” noise assumed above, Shannon does not succeed in deriving one explicit formula for channel capacity, but does obtain useful upper and lower limits for channel capacity. And he also derives limits for channel capacity when one specifies not the average power of the transmitter, but rather the peak instantaneous power.

Finally it should be stated that Shannon obtains results which are necessarily somewhat less specific, but which are of obviously deep and sweeping significance, which, for a general sort of continuous message or signal, characterize the fidelity of the received message, and the concepts of rate at which a source generates information, rate of transmission, and channel capacity, all of these being relative to certain fidelity requirements.

### 3. The Interrelationship of the Three Levels of Communication Problems

#### 3.1 Introductory

In the first section of this paper it was suggested that there are three levels at which one may consider the general communication problem. Namely, one may ask:

**LEVEL A.** How accurately can the symbols of communication be transmitted?

**LEVEL B.** How precisely do the transmitted symbols convey the desired meaning?

**LEVEL C.** How effectively does the received meaning affect conduct in the desired way?

It was suggested that the mathematical theory of communication, as developed by Shannon, Wiener, and others, and particularly the more definitely engineering theory treated by Shannon, although ostensibly applicable only to Level A problems, actually is helpful and suggestive for the level B and C problems.

We then took a look, in section 2, at what this mathematical theory is, what concepts it develops, what results it has obtained. It is the purpose of this concluding section to review the situation, and see to what extent and in what terms the original section was justified in indicating that the progress made at Level A is capable of contributing to levels B and C, was justified in indicating that the interrelation of the three levels is so considerable that one’s final conclusion may be that the separation into the three levels is really artificial and undesirable.

#### 3.2 Generality of the Theory at Level A

The obvious first remark, and indeed the remark that carries the major burden of the argument, is that the mathematical theory is exceedingly general in its scope, fundamental in the problems it treats, and of classic simplicity and power in the results it reaches.

This is a theory so general that one does not need to say what kinds of symbols are being considered—whether written letters or words, or musical notes, or...
spoken words, or symphonic music, or pictures. The theory is deep enough so that the relationships it reveals indiscriminately apply to all these and to other forms of communication. This means, of course, that the theory is sufficiently imaginatively motivated so that it is dealing with the real inner core of the communication problem—with those basic relationships which hold in general, no matter what special form the actual case may take.

It is an evidence of this generality that the theory contributes importantly to, and in fact is really the basic theory of cryptography which is, of course, a form of coding. In a similar way, the theory contributes to the problem of translation from one language to another, although the complete story here clearly requires consideration of meaning, as well as of information. Similarly, the ideas developed in this work connect so closely with the problem of the logical design of great computers that it is no surprise that Shannon has just written a paper on the design of a computer which would be capable of playing a skillful game of chess. And it is of further direct pertinence to the present contention that this paper closes with a remark that either one must say that such a computer “thinks,” or one must substantially modify the conventional implication of the verb “to think.”

As a second point, it seems clear that an important contribution has been made to any possible general theory of communication by the formalization on which the present theory is based. It seems at first obvious to diagram a communication system as it is done at the outset of this theory; but this breakdown of the situation must be very deeply sensible and appropriate, as one becomes convinced when he sees how smoothly and generally this viewpoint leads to central issues. It is almost certainly true that a consideration of communication on levels B and C will require additions to the schematic diagram on page 156, but it seems equally likely that what is required are minor additions, and no real revision.

Thus when one moves to levels B and C, it may prove to be essential to take account of the statistical characteristics of the destination. One can imagine, as an addition to the diagram, another box labeled “Semantic Receiver” interposed between the engineering receiver (which changes signals to messages) and the destination. This semantic receiver subjects the message to a second decoding, the demand on this one being that it must match the statistical semantic characteristics of the message to the statistical semantic capacities of the totality of receivers, or of that subset of receivers which constitute the audience one wishes to affect.

Similarly one can imagine another box in the diagram which, inserted between the information source and the transmitter, would be labeled “semantic noise,” the box previously labeled as simply “noise” now being labeled “engineering noise.” From this source is imposed into the signal the perturbations or distortions of meaning which are not intended by the source but which inescapably affect the destination. And the problem of semantic decoding must take this semantic noise into account. It is also possible to think of an adjustment of original message so that the sum of message meaning plus semantic noise is equal to the desired total message meaning at the destination.

Thirdly, it seems highly suggestive for the problem at all levels that error and confusion arise and fidelity decreases, when, no matter how good the coding, one tries to crowd too much over a channel (i.e., $H > C$). Here again a general theory at all levels will surely have to take into account not only the capacity of the channel but also (even the words are right!) the capacity of the audience. If one tries to overcrowd the capacity of the audience, it is probably true, by direct analogy, that you do not, so to speak, fill the audience up and then waste only the remainder by spilling. More likely, and again by direct analogy, if you overcrowd the capacity of the audience you force a general and inescapable error and confusion.

Fourthly, it is hard to believe that levels B and C do not have much to learn from, and do not have the approach to their problems usefully oriented by, the development in this theory of the entropic ideas in relation to the concept of information.

The concept of information developed in this theory at first seems disappointing and bizarre—disappointing because it has nothing to do with meaning, and bizarre because it deals not with a single message but rather with the statistical character of a whole ensemble of messages, bizarre also because in these statistical terms the two words information and uncertainty find themselves to be partners.

I think, however, that these should be only temporary reactions; and that one should say, at the end that this analysis has so penetratingly cleared the air that one is now, perhaps for the first time, ready for a real theory of meaning. An engineering communication theory is just like a very proper and discreet girl accepting your telegram. She pays no attention to the meaning, whether it be sad, or joyous, or embarrassing. But she must be prepared to deal with all that come to her desk. This idea that a communication system ought to try to deal with all possible messages, and that the intelligent way to try is to base design on the statistical character of the source, is surely not without significance for communication in general. Language must be designed (or developed) with a view to the totality of things that man may wish to say; but not being able to accomplish everything, it too should do as well as possible as often as possible. That is to say,
it too should deal with its task statistically.

The concept of the information to be associated with a source leads directly, as we have seen, to a study of the statistical structure of language; and this study reveals about the English language, as an example, information which seems surely significant to students of every phase of language and communication. The idea of utilizing the powerful body of theory concerning Markoff processes seems particularly promising for semantic studies, since this theory is specifically adapted to handle one of the most significant but difficult aspects of meaning, namely the influence of context. One has the vague feeling that information and meaning may prove to be something like a pair of canonically conjugate variables in quantum theory, they being subject to some joint restriction that condemns a person to the sacrifice of the one as he insists on having much of the other.

Or perhaps meaning may be shown to be analogous to one of the quantities on which the entropy of a thermodynamic ensemble depends. The appearance of entropy in the theory, as was remarked earlier, is surely most interesting and significant. Eddington has already been quoted in this connection, but there is another passage in “The Nature of the Physical World” which seems particularly apt and suggestive:

Suppose that we were asked to arrange the following in two categories—distance, mass, electric force, entropy, beauty, melody.

I think there are the strongest grounds for placing entropy alongside beauty and melody, and not with the first three. Entropy is only found when the parts are viewed in association, and it is by viewing or hearing the parts in association that beauty and melody are discerned. All three are features of arrangement. It is a pregnant thought that one of these three associates should be able to figure as a commonplace quantity of science. The reason why this stranger can pass itself off among the aborigines of the physical world is that it is able to speak their language, viz., the language of arithmetic.

I feel sure that Eddington would have been willing to include the word meaning along with beauty and melody; and I suspect he would have been thrilled to see, in this theory, that entropy not only speaks the language of arithmetic; it also speaks the language of language.
Introduction

After Marx’s death, in rumaging through Marx’s manuscripts, Engels came upon Marx’s precis of *Ancient Society*—a book by progressive US scholar Lewis Henry Morgan and published in London 1877. The precis was written between 1880-81 and contained Marx’s numerous remarks on Morgan as well as passages from other sources.

After reading the precis, Engels set out to write a special treatise—which he saw as fulfilling Marx’s will. Working on the book, he used Marx’s precis, and some of Morgan’s factual material and conclusions. He also made use of many and diverse data gleaned in his own studies of the history of Greece, Rome, Old Ireland, and the Ancient Germans.

It would, of course, become *The Origin of the Family, Private Property and the State*—the first edition of which was published October 1884 in Hottingen-Zurich.

Engels wrote *The Origin of the Family, Private Property and the State* in just two months—beginning toward the end of March 1884 and completing it by the end of May. It focuses on early human history, following the disintegration of the primitive community and the emergence of a class society based on private property. Engels looks into the origin and essence of the state, and concludes it is bound to wither away leaving a classless society.

Engels: “Along with (the classes) the state will inevitably fall. Society, which will reorganise production on the basis of a free and equal association of the producers, will put the whole machinery of state where it will then belong: into the museum of antiquity, by the side of the spinning-wheel and the bronze axe.”

In 1890, having gathered new material on the history of primitive society, Engels set about preparing a new edition of his book. He studied the latest books on the subject—including those of Russian historian Maxim Kovalevsky. (The fourth edition, Stuttgart, 1892, was dedicated to Kovalevsky.) As a result, he introduced a number of changes in his original text and also considerable insertions.

In 1894, Engels’s book appeared in Russian translation. It was the first of Engels’s works published legally in Russia. Lenin would later describe it as “one of the fundamental works of modern socialism.”

Preface to the First Edition, 1884

The following chapters are, in a sense, the execution of a bequest. No less a man than Karl Marx had made it one of his future tasks to present the results of Morgan’s researches in the light of the conclusions of his own—within certain limits, I may say our—materialistic examination of history, and thus to make clear their full significance. For Morgan in his own way had discovered afresh in America the materialistic conception of history discovered by Marx forty years ago, and in his comparison of barbarism and civilization it had led him, in the main points, to the same conclusions as Marx.

Just as the professional economists in Germany were for years as busy in plagiarizing Capital as they were persistent in attempting to kill it by silence, so Morgan’s *Ancient Society* received precisely the same treatment from the spokesmen of “prehistoric” science in England. My work can only provide a slight substitute for what my departed friend no longer had the time to do. But I have the critical notes which he made to his extensive extracts from Morgan, and as far as possible I reproduce them here.

According to the materialistic conception, the determining factor in history is, in the final instance, the production and reproduction of the immediate essentials of life. This, again, is of a twofold character. On the one side, the production of the means of existence, of articles of food and clothing, dwellings, and of the tools necessary for that production; on the other side, the production of human beings themselves, the propagation of the
species. The social organization under which the people of a particular historical epoch and a particular country live is determined by both kinds of production: by the stage of development of labor on the one hand and of the family on the other.

The lower the development of labor and the more limited the amount of its products, and consequently, the more limited also the wealth of the society, the more the social order is found to be dominated by kinship groups. However, within this structure of society based on kinship groups the productivity of labor increasingly develops, and with it private property and exchange, differences of wealth, the possibility of utilizing the labor power of others, and hence the basis of class antagonisms: new social elements, which in the course of generations strive to adapt the old social order to the new conditions, until at last their incompatibility brings about a complete upheaval. In the collision of the newly-developed social classes, the old society founded on kinship groups is broken up; in its place appears a new society, with its control centered in the state, the subordinate units of which are no longer kinship associations, but local associations; a society in which the system of the family is completely dominated by the system of property, and in which there now freely develop those class antagonisms and class struggles that have hitherto formed the content of all written history.

It is Morgan’s great merit that he has discovered and reconstructed in its main lines this prehistoric basis of our written history, and that in the kinship groups of the North American Indians he has found the key to the most important and hitherto insoluble riddles of earliest Greek, Roman and German history. His book is not the work of a day. For nearly forty years he wrestled with his material, until he was completely master of it. But that also makes his book one of the few epoch-making works of our time.

In the following presentation, the reader will in general easily distinguish what comes from Morgan and what I have added. In the historical sections on Greece and Rome I have not confined myself to Morgan’s evidence, but have added what was available to me. The sections on the Celts and the Germans are in the main my work; Morgan had to rely here almost entirely on secondary sources, and for German conditions—apart from Tacitus—on the worthless and liberalistic falsifications of Mr. Freeman. The treatment of the economic aspects, which in Morgan’s book was sufficient for his purpose but quite inadequate for mine, has been done afresh by myself. And, finally, I am, of course, responsible for all the conclusions drawn, in so far as Morgan is not expressly cited.

Preface to the Fourth Edition, 1891

The earlier large editions of this work have been out of print now for almost half a year, and for some time the publisher has been asking me to prepare a new edition. Until now, more urgent work kept me from doing so. Since the appearance of the first edition seven years have elapsed, during which our knowledge of the primitive forms of the family has made important advances. There was, therefore, plenty to do in the way of improvements and additions; all the more so as the proposed stereotyping of the present text will make any further alterations impossible for some time.

I have accordingly submitted the whole text to a careful revision and made a number of additions which, I hope, take due account of the present state of knowledge. I also give in the course of this preface a short review of the development of the history of the family from Bachelofen to Morgan; I do so chiefly because the chauvinistically inclined English anthropologists are still striving their utmost to kill by silence the revolution which Morgan’s discoveries have effected in our conception of primitive history, while they appropriate his results without the slightest compunction. Elsewhere also the example of England is in some cases followed too closely.

My work has been translated into a number of other languages. First, Italian: L’origine della famiglia, della proprieta privata e dello stato, versions riveduta dall’autore, di Pasquale Martignetti, Benevento, 1885. Then, Rumanian: Origina famdei, proprietatei private si a statului, traducere de Joan Nadeide, in the Yassy periodical Contemporanul, September, 1885, to May, 1886. Further, Danish: Familjens, Privatejendommens og Statens Oprindelse, Dansk, af Forfattern gennemgaæt Ugave, besorget af Gerson Trier, Kobenhavn, 1888. A French translation by Henri Rave, based on the present German edition, is on the press.

BEFORE the beginning of the ’sixties, one cannot speak of a history of the family. In this field, the science of history was still completely under the influence of the five books of Moses. The patriarchal form of the family, which was there described in greater detail than anywhere else, was not only assumed without question to be the oldest form, but it was also identified—minus its polygamy—with the bourgeois family of today, so that the family had really experienced no historical development at all; at most it was admitted that in primitive times there might have been a period of sexual promiscuity. It is true that in addition to the monogamous form of the family, two other forms were known to exist—polygamy in the Orient and polyandry in India and Tibet; but these three forms could not be arranged in any historical order and merely appeared side by side without any con-
connection. That among some peoples of ancient history, as well as among some savages still alive today, descent was reckoned, not from the father, but from the mother, and that the female line was therefore regarded as alone valid; that among many peoples of the present day in every continent marriage is forbidden within certain large groups which at that time had not been closely studied—these facts were indeed known and fresh instances of them were continually being collected. But nobody knew what to do with them, and even as late as E. B. Tylor’s Researches into the Early History of Mankind, etc. (1865) they are listed as mere “curious customs,” side by side with the prohibition among some savages against touching burning wood with an iron tool and similar religious mumbo-jumbo.

The history of the family dates from 1861, from the publication of Bachofen’s Mutterrecht. (Mother-right, matriarchate—Ed.) In this work the author advances the following propositions:

1. That originally man lived in a state of sexual promiscuity, to describe which Bachofen uses the mistaken term “hetaerism”;

2. That such promiscuity excludes any certainty of paternity, and that descent could therefore be reckoned only in the female line, according to mother-right, and that this was originally the case amongst all the peoples of antiquity;

3. That since women, as mothers, were the only parents of the younger generation that were known with certainty, they held a position of such high respect and honor that it became the foundation, in Bachofen’s conception, of a regular rule of women (gynaecocracy);

4. That the transition to monogamy, where the woman belonged to one man exclusively, involved a violation of a primitive religious law (that is, actually a violation of the traditional right of the other men to this woman), and that in order to expiate this violation or to purchase indulgence for it the woman had to surrender herself for a limited period.

Bachofen finds the proofs of these assertions in innumerable passages of ancient classical literature, which he collected with immense industry. According to him, the development from “hetaerism” to monogamy and from mother-right to father-right is accomplished, particularly among the Greeks, as the consequence of an advance in religious conceptions, introducing into the old hierarchy of the gods, representative of the old outlook, new deities, representative of the new outlook, who push the former more and more into the background. Thus, according to Bachofen, it is not the development of men’s actual conditions of life, but the religious reflection of these conditions inside their heads, which has brought about the historical changes in the social position of the sexes in relation to each other. In accordance with this view, Bachofen interprets the Oresteia of Aeschylus as the dramatic representation of the conflict between declining mother-right and the new father-right that arose and triumphed in the heroic age. For the sake of her paramour, Aegisthus, Clytemnestra slays her husband, Agamemnon, on his return from the Trojan War; but Orestes, the son of Agamemnon and herself, avenges his father’s murder by slaying his mother. For this act he is pursued by the Furies, the demonic guardians of mother-right, according to which matricide is the gravest and most inexcusable crime. But Apollo, who by the voice of his oracle had summoned Orestes to this deed, and Athena, who is called upon to give judgment—the two deities who here represent the new patriarchal order—take Orestes under their protection; Athena hears both sides. The whole matter of the dispute is briefly summed up in the debate which now takes place between Orestes and the Furies. Orestes contends that Clytemnestra has committed a double crime; she has slain her husband and thus she has also slain his father. Why should the Furies pursue him, and not her, seeing that she is by far the more guilty? The answer is striking: “She was not kin by blood to the man she slew.”

The murder of a man not related by blood, even if he be the husband of the murderess, is expiable and does not concern the Furies; their office is solely to punish murder between blood relations, and of such murders the most grave and the most inexcusable, according to mother-right, is matricide. Apollo now comes forward in Orestes’ defense; Athena calls upon the Areopagites—the Athenian jurors—to vote; the votes for Orestes’ condemnation and for his acquittal are equal; Athena, as president, gives her vote for Orestes and acquits him. Father-right has triumphed over mother-right, the “gods of young descent,” as the Furies themselves call them, have triumphed over the Furies; the latter then finally allow themselves to be persuaded to take up a new office in the service of the new order.

This new but undoubtedly correct interpretation of the Oresteia is one of the best and finest passages in the whole book, but it proves at the same time that Bachofen believes at least as much as Aeschylus did in the Furies, Apollo, and Athena; for, at bottom, he believes that the overthrow of mother-right by father-right was a miracle wrought during the Greek heroic age by these divinities. That such a conception, which makes religion the lever of world history, must finally end in pure mysticism, is clear. It is therefore a tough and by no means always a grateful task to plow through Bachofen’s solid tome. But all that does not lessen his importance as a pioneer. He was the first to replace the vague phrases about some unknown primitive state
of sexual promiscuity by proofs of the following facts: that abundant traces survive in old classical literature of a state prior to monogamy among the Greeks and Asiatics when not only did a man have sexual intercourse with several women, but a woman with several men, without offending against morality; that this custom did not disappear without leaving its traces in the limited surrender which was the price women had to pay for the right to monogamy; that therefore descent could originally be reckoned only in the female line, from mother to mother; that far into the period of monogamy, with its certain or at least acknowledged paternity, the female line was still alone recognized; and that the original position of the mothers, as the only certain parents of their children, secured for them, and thus for their whole sex, a higher social position than women have ever enjoyed since. Bachofen did not put these statements as clearly as this, for he was hindered by his mysticism. But he proved them; and in 1861 that was a real revolution.

Bachofen’s massive volume was written in German, the language of the nation which at that time interested itself less than any other in the prehistory of the modern family. Consequently, he remained unknown. His first successor in the same field appeared in 1865, without ever having heard of Bachofen.

This successor was J. F. McLennan, the exact opposite of his predecessor. Instead of a mystic of genius, we have the dry-as-dust jurist; instead of the exuberant imagination of a poet, the plausible arguments of a barrister defending his brief. McLennan finds among many savage, barbarian, and even civilized peoples of ancient and modern times a form of marriage in which the bridegroom, alone or with his friends, must carry off the bride from her relations by a show of force. This custom must be the survival of an earlier custom when the men of one tribe did in fact carry off their wives by force from other tribes. What was the origin of this “marriage by capture”? So long as men could find enough women in their own tribe, there was no reason whatever for it. We find, however, no less frequently that among undeveloped peoples there are certain groups (which in 1865 were still often identified with the tribes themselves) within which marriage is forbidden, so that the men are obliged to take their wives, and women their husbands, from outside the group; whereas among other peoples the custom is that the men of one group must take their wives only from within their own group. McLennan calls the first peoples “exogamous” and the second “endogamous”; he then promptly proceeds to construct a rigid opposition between exogamous and endogamous “tribes.” And although his own investigations into exogamy force the fact under his nose that in many, if not in most or even in all, cases, this opposition exists only in his own imagination, he nevertheless makes it the basis of his whole theory. According to this theory, exogamous tribes can only obtain their wives from other tribes; and since in savagery there is a permanent state of war between tribe and tribe, these wives could only be obtained by capture. McLennan then goes on to ask: Whence this custom of exogamy? The conception of consanguinity and incest could not have anything to do with it, for these things only came much later. But there was another common custom among savages—the custom of killing female children immediately after birth. This would cause a surplus of men in each individual tribe, of which the inevitable and immediate consequence would be that several men possessed a wife in common: polyandry. And this would have the further consequence that it would be known who was the mother of a child, but not who its father was: hence relationship only in the female line, with exclusion of the male line—mother-right. And a second consequence of the scarcity of women within a tribe—a scarcity which polyandry mitigated, but did not remove—was precisely this systematic, forcible abduction of women from other tribes.

As exogamy and polyandry are referable to one and the same cause—a want of balance between the sexes—we are forced to regard all the exogamous races as having originally been polyandrous.... Therefore we must hold it to be beyond dispute that among exogamous races the first system of kinship was that which recognized blood-ties through mothers only.

(McLennan, Studies in Ancient History, 1886. Primitive Marriage, p. 124)

It is McLennan’s merit to have directed attention to the general occurrence and great importance of what he calls exogamy. He did not by any means discover the existence of exogamous groups; still less did he understand them. Besides the early, scattered notes of many observers (these were McLennan’s sources), Latham (Descriptive Ethnology, 1859) had given a detailed and accurate description of this institution among the Indian Magars, and had said that it was very widespread and occurred in all parts of the world—a passage which McLennan himself cites. Morgan, in 1847, in his letters on the Iroquois (American Review) and in 1851 in The League of the Iroquois, had already demonstrated the existence of exogamous groups among this tribe and had given an accurate account of them; whereas McLennan, as we shall see, wrought greater confusion here with his legalistic mind than Bachofen wrought in the field of mother-right with his mystical fancies. It is also a merit of McLennan that he recognized matrilineral descent as the earlier system, though he was here anticipated by Bachofen, as he later acknowledged. But McLennan is not clear on this either; he always speaks of “kinship

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through females only;” and this term, which is correct for an earlier stage, he continually applies to later stages of development when descent and inheritance were indeed still traced exclusively through the female line, but when kinship on the male side was also recognized and expressed. There you have the pedantic mind of the jurist, who fixes on a rigid legal term and goes on applying it unchanged when changed conditions have made it applicable no longer.

Apparently McLennan’s theory, plausible though it was, did not seem any too well established even to its author. At any rate, he himself is struck by the fact that “it is observable that the form of capture is now most distinctly marked and impressive just among those races which have male kinship” (should be “descent in the male line”). (Ibid., p. 140) And again: “It is a curious fact that nowhere now, that we are aware of, is infanticide a system where exogamy and the earliest form of kinship co-exist.” (Ibid., p. 146.) Both these facts flatly contradict his method of explanation, and he can only meet them with new and still more complicated hypotheses.

Nevertheless, his theory found great applause and support in England. McLennan was here generally regarded as the founder of the history of the family and the leading authority on the subject. However many exceptions and variations might be found in individual cases, his opposition of exogamous and endogamous tribes continued to stand as the recognized foundation of the accepted view, and to act as blinkers, obstructing any free survey of the field under investigation and so making any decisive advance impossible. Against McLennan’s exaggerated reputation in England—and the English fashion is copied elsewhere—it becomes a duty to set down the fact that he has done more harm with his completely mistaken antithesis between exogamous and endogamous “tribes” than he has done good by his research.

Facts were now already coming to light in increasing number which did not fit into his neat framework. McLennan knew only three forms of marriage: polygyny, polyandry and monogamy. But once attention had been directed to the question, more and more proofs were found that there existed among undeveloped peoples forms of marriage in which a number of men possessed a number of women in common, and Lubbock (The Origin of Civilization, 1870) recognized this group marriage (“communal marriage”) as a historical fact.

Immediately afterwards, in 1871, Morgan came forward with new and in many ways decisive evidence. He had convinced himself that the peculiar system of consanguinity in force among the Iroquois was common to all the aboriginal inhabitants of the United States and therefore extended over a whole continent, although it directly contradicted the degrees of relationship arising out of the system of marriage as actually practiced by these peoples. He then induced the Federal government to collect information about the systems of consanguinity among the other peoples of the world and to send out for this purpose tables and lists of questions prepared by himself. He discovered from the replies: (1) that the system of consanguinity of the American Indians was also in force among numerous peoples in Asia and, in a somewhat modified form, in Africa and Australia; (2) that its complete explanation was to be found in a form of group marriage which was just dying out in Hawaii and other Australasian islands; and (3) that side by side with this form of marriage a system of consanguinity was in force in the same islands which could only be explained through a still more primitive, now extinct, form of group marriage. He published the collected evidence, together with the conclusions he drew from it, in his Systems of Consanguinity and Affinity, 1871, and thus carried the debate on to an infinitely wider field. By starting from the systems of consanguinity and reconstructing from them the corresponding forms of family, he opened a new line of research and extended our range of vision into the prehistory of man. If this method proved to be sound, McLennan’s pretty theories would be completely demolished.

Mclennan defended his theory in a new edition of Primitive Marriage (Studies in Ancient History, 1876). Whilst he himself constructs a highly artificial history of the family out of pure hypotheses, he demands from Lubbock and Morgan not merely proofs for every one of their statements, but proofs as indisputably valid as if they were to be submitted in evidence in a Scottish court of law. And this is the man who, from Tacitus’ report on the close relationship between maternal uncle and sister’s son among the Germans (Gernwnia, Chap. 20), from Caesar’s report that the Britons in groups of ten or twelve possessed their wives in common, from all the other reports of classical authors on community of wives among barbarians, calmly draws the conclusion that all these peoples lived in a state of polyandry! One might be listening to a prosecuting counsel who can allow himself every liberty in arguing his own case, but demands from defending counsel the most formal, legally valid proof for his every word.

He maintains that group marriage is pure imagination, and by so doing falls far behind Bachofen. He declares that Morgan’s systems of consanguinity are mere codes of conventional politeness, the proof being that the Indians also address a stranger or a white man as brother or father. One might as well say that the terms “father,” “mother,” “brother,” “sister” are mere meaningless forms of address because Catholic priests and abbesses are addressed as “father” and “mother,” and because monks...
and nuns, and even freemasons and members of English trade unions and associations at their full sessions are addressed as “brother” and “sister.” In a word, McLennan’s defense was miserably feeble.

But on one point he had still not been assailed. The opposition of exogamous and endogamous “tribes” on which his whole system rested not only remained unshaken, but was even universally acknowledged as the keystone of the whole history of the family. McLennan’s attempt to explain this opposition might be inadequate and in contradiction with his own facts. But the antithesis itself, the existence of two mutually exclusive types of self-sufficient and independent tribes, of which the one type took their wives from within the tribe, while the other type absolutely forbade it—that was sacred gospel. Compare, for example, Giraud-Teulon’s Origines de la famille (1874) and even Lubbock’s Origin of Civilization (fourth edition, 1882).

Here Morgan takes the field with his main work, Ancient Society (1877), the work that underlies the present study. What Morgan had only dimly guessed in 1871 is now developed in full consciousness. There is no antithesis between endogamy and exogamy; up to the present, the existence of exogamous “tribes” has not been demonstrated anywhere. But at the time when group marriage still prevailed—and in all probability it prevailed everywhere at some time—the tribe was subdivided into a number of groups related by blood on the mother’s side, gentes, within which it was strictly forbidden to marry, so that the men of a gens, though they could take their wives from within the tribe and generally did so, were compelled to take them from outside their gens. Thus while each gens was strictly exogamous, the tribe embracing all the gentes was no less endogamous. Which finally disposed of the last remains of McLennan’s artificial constructions.

But Morgan did not rest here. Through the gens of the American Indians, he was enabled to make his second great advance in his field of research. In this gens, organized according to mother-right, he discovered the primitive form out of which had developed the later gens organized according to father-right, the gens as we find it among the ancient civilized peoples. The Greek and Roman gens, the old riddle of all historians, now found its explanation in the Indian gens, and a new foundation was thus laid for the whole of primitive history.

This rediscovery of the primitive matriarchal gens as the earlier stage of the patriarchal gens of civilized peoples has the same importance for anthropology as Darwin’s theory of evolution has for biology and Marx’s theory of surplus value for political economy. It enabled Morgan to outline for the first time a history of the family in which for the present, so far as the material now available permits, at least the classic stages of development in their main outlines are now determined. That this opens a new epoch in the treatment of primitive history must be clear to everyone. The matriarchal gens has become the pivot on which the whole science turns; since its discovery we know where to look and what to look for in our research, and how to arrange the results. And, consequently, since Morgan’s book, progress in this field has been made at a far more rapid speed.

Anthropologists, even in England, now generally appreciate, or rather appropriate, Morgan’s discoveries. But hardly one of them has the honesty to admit that it is to Morgan that we owe this revolution in our ideas. In England they try to kill his book by silence, and dispose of its author with condescending praise for his earlier achievements; they niggle endlessly over details and remain obstinately silent about his really great discoveries. The original edition of Ancient Society is out of print; in America there is no sale for such things; in England, it seems, the book was systematically suppressed, and the only edition of this epochmaking work still circulating in the book trade is—the German translation.

Why this reserve? It is difficult not to see in it a conspiracy of silence; for politeness’ sake, our recognized anthropologists generally pack their writings with quotations and other tokens of camaraderie. Is it, perhaps, because Morgan is an American, and for the English anthropologists it goes sorely against the grain that, despite their highly creditable industry in collecting material, they should be dependent for their general points of view in the arrangement and grouping of this material, for their ideas in fact, on two foreigners of genius, Bachofen and Morgan? They might put up with the German—but the American? Every Englishman turns patriotic when he comes up against an American, and of this I saw highly entertaining instances in the United States. Moreover, McLennan was, so to speak, the officially appointed founder and leader of the English school of anthropology. It was almost a principle of anthropological etiquette to speak of his artificially constructed historical series—child-murder, polygyny, marriage by capture, matriarchal family—in tones only of profoundest respect. The slightest doubt in the existence of exogamous and endogamous “tribes” of absolute mutual exclusiveness was considered rank heresy. Morgan had committed a kind of sacrilege in dissolving all these hallowed dogmas into thin air. Into the bargain, he had done it in such a way that it only needed saying to carry immediate conviction; so that the McLennanites, who had hitherto been helplessly reeling to and fro between exogamy and endogamy, could only beat their brows and exclaim: “How could we be such fools as not to think of that for ourselves long ago?”
As if these crimes had not already left the official school with the option only of coldly ignoring him, Morgan filled the measure to overflowing by not merely criticizing civilization, the society of commodity production, the basic form of present-day society, in a manner reminiscent of Fourier, but also by speaking of a future transformation of this society in words which Karl Marx might have used. He had therefore amply merited McLennan’s indignant reproach that “the historical method is antipathetical to Mr. Morgan’s mind,” and its echo as late as 1884 from Mr. Professor Giraud-Teulon of Geneva. In 1874 (Origines de la famille) this same gentleman was still groping helplessly in the maze of the McLennanite exogamy, from which Morgan had to come and rescue him!

Of the other advances which primitive anthropology owes to Morgan, I do not need to speak here; they are sufficiently discussed in the course of this study. The fourteen years which have elapsed since the publication of his chief work have greatly enriched the material available for the study of the history of primitive human societies. The anthropologists, travelers and primitive historians by profession have now been joined by the comparative jurists, who have contributed either new material or new points of view. As a result, some of Morgan’s minor hypotheses have been shaken or even disproved. But not one of the great leading ideas of his work has been ousted by this new material. The order which he introduced into primitive history still holds in its main lines today. It is, in fact, winning recognition to the same degree in which Morgan’s responsibility for the great advance is carefully concealed.2

Frederick Engels
London, June 16, 1891

1. Stages of Prehistoric Culture

MORGAN3 is the first man who, with expert knowledge, has attempted to introduce a definite order into the history of primitive man; so long as no important additional material makes changes necessary, his classification will undoubtedly remain in force.

Of the three main epochs—savagery, barbarism, and civilization—he is concerned, of course, only with the first two and the transition to the third. He divides both savagery and barbarism into lower, middle, and upper stages according to the progress made in the production of food; for, he says:

Upon their skill in this direction, the whole question of human supremacy on the earth depended. Mankind are the only beings who may be said to have gained an absolute control over the production of food . . . It is accordingly probable that the great epochs of human progress have been identified, more or less directly, with the enlargement of the sources of subsistence.—[Morgan, op. cit., p. 19. -Ed.]

The development of the family takes a parallel course, but here the periods have not such striking marks of differentiation.

1.1 Savagery

(a.) LOWER STAGE. Childhood of the human race (Australopithecus). Man still lived in his original habitat, in tropical or subtropical forests, and was partially at least a tree-dweller, for otherwise his survival among huge beasts of prey cannot be explained. Fruit, nuts and roots served him for food. The development of articulate speech is the main result of this period. Of all the peoples known to history none was still at this primitive level. Though this period may have lasted thousands of years, we have no direct evidence to prove its existence; but once the evolution of man from the animal kingdom is admitted, such a transitional stage must necessarily be assumed.4

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2 On the voyage back from New York in September, 1888, I met a former member of Congress for the district of Rochester, who had known Lewis Morgan. Unfortunately, he could not tell me very much about him. He said that Morgan had lived in Rochester as a private individual, occupied only with his studies. His brother was a colonel, and had held a post in the War Department in Washington; it was through him that Morgan had managed to interest the Government in his researches and to get several of his works published at public expense. While he was a member of Congress, my informant had also on more than one occasion used his influence on Morgan’s behalf.

3 Editorial Footnotes: The intent of these footnotes are both to help the modern reader critically assess this work in face of recent scientific evidence and to show how effective Engels’ dialectical method was that many of his conclusions remain true to this day. The following chapters do not have editorial footnotes because they are not needed as much as they are in this chapter (and this editor is not as knowledgeable on those other subjects’). It should be noted that Engels’ focus on European cultures is due to his lack of data on other cultures. These notes were written by Marxists’ Internet Archive volunteer Brian Basgen (July, 2000).

4 In 1880, the evidence for this was astoundingly scarce, yet Engels conclusions (most importantly articulate, not modern, but not ape speech) remain correct to this day. Throughout the 20th-century, groundbreaking new archeological finds opened up our understanding of this period. These characteristics are descriptive of the first human genus: Australopithecus (the first fossil evidence was found in 1924 at Taung, SA) who came into existence 5–6 million years ago on the content of Africa, and became extinct in the Early Pleistocene period (1.6 million to 900,000 years ago). These humans primarily were dependent on fruits, roots, etc. but likely supplemented this as scavengers. They did not live in caves or dwellings of their own choosing, but were primarily jungle dwellers, likely residing in trees.
(b.) MIDDLE STAGE. Begins with the utilization of fish for food (including crabs, mussels, and other aquatic animals), and with the use of fire. The two are complementary, since fish becomes edible only by the use of fire. With this new source of nourishment, men now became independent of climate and locality; even as savages, they could, by following the rivers and coasts, spread over most of the earth. Proof of these migrations is the distribution over every continent of the crudely worked, unsharpened flint tools of the earlier Stone Age, known as “palaeoliths,” all or most of which date from this period. New environments, ceaseless exercise of his inventive faculty, and the ability to produce fire by friction, led man to discover new kinds of food: farinaceous roots and tubers, for instance, were baked in hot ashes or in ground ovens. With the invention of the first weapons, club and spear, game could sometimes be added to the fare. But the tribes which figure in books as living entirely, that is, exclusively, by hunting never existed in reality; the yield of the hunt was far too precarious. At this stage, owing to the continual uncertainty of food supplies, cannibalism seems to have arisen, and was practiced from now onwards for a long time. The Australian aborigines and many of the Polynesians are still in this middle stage of savagery today.5

(c.) UPPER STAGE. Begins with the invention of the bow and arrow, whereby game became a regular source of food, and hunting a normal form of work. Bow, string, and arrow already constitute a very complex instrument, whose invention implies long, accumulated experience and sharpened intelligence, and therefore knowledge of many other inventions as well. We find, in fact, that the peoples acquainted with the bow and arrow but not yet with pottery (from which Morgan dates the transition to barbarism) are already making some beginnings towards settlement in villages and have gained some control over the production of means of subsistence; we find wooden vessels and utensils, finger-weaving (without looms) with filaments of bark; plaited baskets of bast or osier; sharpened (neolithic) stone tools. With the discovery of fire and the stone ax, dug-out canoes now become common; beams and planks are also sometimes used for building houses. We find all these advances, for instance, among the Indians of northwest America, who are acquainted with the bow and arrow but not with pottery. The bow and arrow was for savagery what the iron sword was for barbarism and fire-arms for civilization—the decisive weapon.6

1.2 Barbarism

(a.) LOWER STAGE. Dates from the introduction of pottery. In many cases it has been proved, and in all it is probable, that the first pots originated from the habit of covering baskets or wooden vessels with clay to make them fireproof; in this way it was soon discovered that the clay mold answered the purpose without any inner vessel.

Thus far we have been able to follow a general line of development applicable to all peoples at a given period without distinction of place. With the beginning of barbarism, however, we have reached a stage when the difference in the natural endowments of the two hemispheres of the earth comes into play. The characteristic feature of the period of barbarism is the domestication and breeding of animals and the cultivation of plants. Now, the Eastern Hemisphere, the so-called Old World, possessed nearly all the animals adaptable to domestication, and all the varieties of cultivable cereals except one; the Western Hemisphere, America, had no mammals that could be domesticated except the llama, which, moreover, was only found in one part of South America, and of all the cultivable cereals only one, though that was the best, namely, maize. Owing to these differences in natural conditions, the population of each hemisphere now goes on its own way, and different landmarks divide the particular stages in each of the two cases.

(b.) MIDDLE STAGE. Begins in the Eastern Hemisphere with domestication of animals; in the Western, with the cultivation, by means of irrigation, of

5Engels here describes the practices of homo erectus, and again his conclusions are lucid despite the lack of much evidence in his 19th century. Collection of their own food was predominant; the use of fire is widely accepted; they hunted animals to some extent, and most importantly these practices allowed for the migration of humanity. One million years ago homo erectus left Africa and settled in the Middle East (which was later the cradle of civilization, not surprising considering it was the great crossroads of human migration), splitting up with migrations from Southern Europe to throughout Southern Asia (the extent of the ice caps had not yet reseeded so settlement of the northern regions was not yet possible).

Engels does however make two mistakes in his conclusions: cannibalism was very likely nonexistent (its practice in human history is questionable) and Polynesians and Australians are not homo erectus, but homo sapiens.

6Characteristics descriptive of homo sapiens, i.e. modern human beings, who first emerged 100,000 years ago, and who very likely had their origins in Africa (it is thought that the homo erectus became extinct throughout the world, and homo sapiens emerged from the genus of homo erectus that had survived in Africa).
plants for food, and with the use of adobe (sun-dried) bricks and stone for building. We will begin with the Western Hemisphere, as here this stage was never superseded before the European conquest.

At the time when they were discovered, the Indians at the lower stage of barbarism (comprising all the tribes living east of the Mississippi) were already practicing some horticulture of maize, and possibly also of gourds, melons, and other garden plants, from which they obtained a very considerable part of their food. They lived in wooden houses in villages protected by palisades. The tribes in the northwest, particularly those in the region of the Columbia River, were still at the upper stage of savagery and acquainted neither with pottery nor with any form of horticulture. The so-called Pueblo Indians of New Mexico, however, and the Mexicans, Central Americans, and Peruvians at the time of their conquest were at the middle stage of barbarism. They lived in houses like fortresses, made of adobe brick or of stone, and cultivated maize and other plants, varying according to locality and climate, in artificially irrigated plots of ground, which supplied their main source of food; some animals even had also been domesticated—the turkey and other birds by the Mexicans, the llama by the Peruvians. They could also work metals, but not iron; hence they were still unable to dispense with stone weapons and tools. The Spanish conquest then cut short any further independent development.

In the Eastern Hemisphere the middle stage of barbarism began with the domestication of animals providing milk and meat, but horticulture seems to have remained unknown far into this period. It was, apparently, the domestication and breeding of animals and the formation of herds of considerable size that led to the differentiation of the Aryans and Semites from the mass of barbarians. The European and Asiatic Aryans still have the same names for cattle, but those for most of the cultivated plants are already different.

In suitable localities, the keeping of herds led to a pastoral life: the Semites lived upon the grassy plains of the Euphrates and Tigris (Mesopotamia), and the Aryans upon those of India and of the Oxus and Jaxartes, of the Don and the Dnieper. It must have been on the borders of such pasture lands that animals were first domesticated. To later generations, consequently, the pastoral tribes appear to have come from regions which, so far from being the cradle of mankind, were almost uninhabitable for their savage ancestors and even for man at the lower stages of barbarism. But having once accustomed themselves to pastoral life in the grassy plains of the rivers, these barbarians of the middle period would never have dreamed of returning willingly to the native forests of their ancestors. Even when they were forced further to the north and west, the Semites and Aryans could not move into the forest regions of western Asia and of Europe until by cultivation of grain they had made it possible to pasture and especially to winter their herds on this less favorable land. It is more than probable that among these tribes the cultivation of grain originated from the need for cattle fodder and only later became important as a human food supply.

The plentiful supply of milk and meat and especially the beneficial effect of these foods on the growth of the children account perhaps for the superior development of the Aryan and Semitic races. It is a fact that the Pueblo Indians of New Mexico, who are reduced to an almost entirely vegetarian diet, have a smaller brain than the Indians at the lower stage of barbarism, who eat more meat and fish. In any case, cannibalism now gradually dies out, surviving only as a religious act or as a means of working magic, which is here almost the same thing.

(c.) UPPER STAGE. Begins with the smelting of iron ore, and passes into civilization with the inven-

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7. The data of the 1880s has been proved partially inaccurate. While it is true that the Mesopotamians domesticated animals around the same time they were also the first farmers in world history (in around 10,000 B.C.E.). The exact sequence is unknown.

8. It is important to point out Engels coupling of Aryans and Semites. Information on Mesopotamia was limited to biblical text until the mid-19th-century—it was not until the 1850s onwards when archaeology began to explore and gain historical evidence in Mesopotamia. This coupling therefore is likely a combination of both biblical text (referring to the biblical peoples Aryans and Semites instead of the region Mesopotamia) and contemporary archeological work (the data of his conclusions).

Another facet of this combination was Engels lack of prejudice. By the 19th-century Aryans were thought to be a unique human race and were cited as scientific evidence of racial superiority (even later this would evolve into the theory that the Germans were the most “pure” Aryans). This popular theory would not be disapproved by anthropologists until the 20th century. The fact that Engels couples them together evidences a noteworthy lack of the prevalent racism of the time.

9. The theory that the larger brain is more intelligent was disproven by the end of the 19th century. Intelligence can be generally compared by brain size relative to body size. Because the Pueblo Indians were smaller humans, naturally their brains were smaller. The same is true for Africans, who are larger and so their brains are larger.
tion of alphabetic writing and its use for literary records [beginning in Mesopotamia in around 3000 B.C.E.]. This stage (as we have seen, only the Eastern Hemisphere passed through it independently) is richer in advances in production than all the preceding stages together. To it belong the Greeks of the heroic age, the tribes of Italy shortly before the foundation of Rome, the Germans of Tacitus and the Norsemen of the Viking age. 10

Above all, we now first meet the iron plowshare drawn by cattle, which made large-scale agriculture, the cultivation of fields, possible, and thus created a practically unrestricted food supply in comparison with previous conditions. This led to the clearance of forest land for tillage and pasture, which in turn was impossible on a large scale without the iron ax and the iron spade. Population rapidly increased in number, and in small areas became dense. Prior to field agriculture, conditions must have been very exceptional if they allowed half a million people to be united under a central organization; probably such a thing never occurred.

We find the upper stage of barbarism at its highest in the Homeric poems, particularly in the Iliad. Fully developed iron tools, the bellows, the handmill, the potter’s wheel, the making of oil and wine, metal work developing almost into a fine art, the wagon and the war-chariot, ship-building with beams and planks, the beginnings of architecture as art, walled cities with towers and battlements, the Homeric epic and a complete mythology—these are the chief legacy brought by the Greeks from barbarism into civilization. When we compare the descriptions which Caesar and even Tacitus give of the Germans, who stood at the beginning of the cultural stage from which the Homeric Greeks were just preparing to make the next advance, we realize how rich was the development of production within the upper stage of barbarism.

The sketch which I have given here, following Morgan, of the development of mankind through savagery and barbarism to the beginnings of civilization, is already rich enough in new features; what is more, they cannot be disputed, since they are drawn directly from the process of production. Yet my sketch will seem flat and feeble compared with the picture to be unrolled at the end of our travels; only then will the transition from barbarism to civilization stand out in full light and in all its striking contrasts. For the time being, Morgan’s division may be summarized thus:

Savagery the period in which man’s appropriation of products in their natural state predominates; the products of human art are chiefly instruments which assist this appropriation.

Barbarism the period during which man learns to breed domestic animals and to practice agriculture, and acquires methods of increasing the supply of natural products by human activity.

Civilization the period in which man learns a more advanced application of work to the products of nature, the period of industry proper and of art.

2. The Family

MORGAN, who spent a great part of his life among the Iroquois Indians—settled to this day in New York State—and was adopted into one of their tribes (the Senecas), found in use among them a system of consanguinity which was in contradiction to their actual family relationships. There prevailed among them a form of monogamy easily terminable on both sides, which Morgan calls the “pairing family.” The issue of the married pair was therefore known and recognized by everybody: there could be no doubt about whom to call father, mother, son, daughter, brother, sister. But these names were actually used quite differently. The Iroquois calls not only his own children his sons and daughters, but also the children of his brothers; and they call him father. The children of his sisters, however, he calls his nephews and nieces, and they call him their uncle. The Iroquois woman, on the other hand, calls her sisters’ children, as well as her own, her sons and daughters, and they call her mother. But her brothers’ children she calls her nephews and nieces, and she is known as their aunt. Similarly, the children of brothers call one another brother and sister, and so do the children of sisters. A woman’s own children and the children of her brother, on the other hand, call one another cousins. And these are not mere empty names, but expressions of actual conceptions of nearness and remoteness, of equality and difference in the degrees of consanguinity: these conceptions serve as the foundation of a fully elaborated system of consanguinity through which several hundred different relationships of one individual can be expressed. What is more, this system is not only in full force among all American Indians (no exception has been found up to the present), but also retains its validity almost unchanged among the aborigines of India, the Dravidian tribes in the Deccan and

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10 This is mistaken. The Mesopotamian (3500–1000 B.C.E.), Egyptian (3000–500 B.C.E.), Harrapan (2500–1000 B.C.E.), & Chinese (2000 B.C.E.–1800 C.E.) civilizations long preceded the Europeans in this stage: the Greeks were the first in Europe at around 500 B.C.E.
the Gaura tribes in Hindustan. To this day the Tamils of southern India and the Iroquois Seneca Indians in New York State still express more than two hundred degrees of consanguinity in the same manner. And among these tribes of India, as among all the American Indians, the actual relationships arising out of the existing form of the family contradict the system of consanguinity.

How is this to be explained? In view of the decisive part played by consanguinity in the social structure of all savage and barbarian peoples, the importance of a system so widespread cannot be dismissed with phrases. When a system is general throughout America and also exists in Asia among peoples of a quite different race, when numerous instances of it are found with greater or less variation in every part of Africa and Australia, then that system has to be historically explained, not talked out of existence, as McLennan, for example, tried to do. The names of father, child, brother, sister are no mere complimentary forms of address; they involve quite definite and very serious mutual obligations which together make up an essential part of the social constitution of the peoples in question.

The explanation was found. In the Sandwich Islands (Hawaii) there still existed in the first half of the nineteenth century a form of family in which the fathers and mothers, brothers and sisters, sons and daughters, uncles and aunts, nephews and nieces were exactly what is required by the American and old Indian system of consanguinity. But now comes a strange thing. Once again, the system of consanguinity in force in Hawaii did not correspond to the actual form of the Hawaiian family. For according to the Hawaiian system of consanguinity all children of brothers and sisters are without exception brothers and sisters of one another and are considered to be the common children not only of their mother and her sisters or of their father and his brothers, but of all the brothers and sisters of both their parents without distinction. While, therefore, the American system of consanguinity presumes a more primitive form of the family which has disappeared in America, but still actually exists in Hawaii, the Hawaiian system of consanguinity, on the other hand, points to a still earlier form of the family which, though we can nowhere prove it to be still in existence, nevertheless must have existed; for otherwise the corresponding system of consanguinity could never have arisen.

The family (says Morgan) represents an active principle. It is never stationary, but advances from a lower to a higher form as society advances from a lower to a higher condition... Systems of consanguinity, on the contrary, are passive; recording the progress made by the family at long intervals apart, and only changing radically when the family has radically changed. (Morgan, op. cit., p. 444.—Ed.)

“And,” adds Marx, “the same is true of the political, juridical, religious, and philosophical systems in general.” While the family undergoes living changes, the system of consanguinity ossifies; while the system survives by force of custom, the family outgrows it. But just as Cuvier could deduce from the marsupial bone of an animal skeleton found near Paris that it belonged to a marsupial animal and that extinct marsupial animals once lived there, so with the same certainty we can deduce from the historical survival of a system of consanguinity that an extinct form of family once existed which corresponded to it.

The systems of consanguinity and the forms of the family we have just mentioned differ from those of today in the fact that every child has more than one father and mother. In the American system of consanguinity, to which the Hawaiian family corresponds, brother and sister cannot be the father and mother of the same child; but the Hawaiian system of consanguinity, on the contrary, presupposes a family in which this was the rule. Here we find ourselves among forms of family which directly contradict those hitherto generally assumed to be alone valid. The traditional view recognizes only monogamy, with, in addition, polygamy on the part of individual men, and at the very most polyandry on the part of individual women; being the view of moralizing philistines, it conceals the fact that in practice these barriers raised by official society are quietly and calmly ignored. The study of primitive history, however, reveals conditions where the men live in polygamy and their wives in polyandry at the same time, and their common children are therefore considered common to them all—and these conditions in their turn undergo a long series of changes before they finally end in monogamy. The trend of these changes is to narrow more and more the circle of people comprised within the common bond of marriage, which was originally very wide, until at last it includes only the single pair, the dominant form of marriage today.

Reconstructing thus the past history of the family, Morgan, in agreement with most of his colleagues, arrives at a primitive stage when unrestricted sexual freedom prevailed within the tribe, every woman belonging equally to every man and every man to every woman. Since the eighteenth century there had been talk of such a primitive state, but only in general phrases. Bachofen—and this is one of his great merits—was the first to take the existence of such a state seriously and to search for its traces in historical and religious survivals. Today we know that the traces he found do not lead back to a social stage of promiscuous sexual intercourse, but to a much later form—namely, group marriage. The primitive social stage of promiscuity, if it ever existed, belongs to such a remote epoch that we can hardly expect
for the Greeks, when they introduced the word, hetaerism meant intercourse of men, unmarried or living in monogamy, with unmarried women. It must be spared this “shame.” It is pointed out that all direct proof of such a stage is lacking, and particular appeal is made to the evidence from the rest of the animal world; for, even among animals, according to the numerous facts collected by Letourneau (Evolution du manage et de la faults, 1888), complete promiscuity in sexual intercourse marks a low stage of development. But the only conclusion I can draw from all these facts, so far as man and his primitive conditions of life are concerned, is that they prove nothing whatever. That vertebrates mate together for a considerable period is sufficiently explained by physiological causes—in the case of birds, for example, by the female’s need of help during the brooding period; examples of faithful monogamy among birds prove nothing about man, for the simple reason that men are not descended from birds. And if strict monogamy is the height of all virtue, then the palm must go to the tape-worm, which has a complete set of male and female sexual organs in each of its 50–200 proglottides, or sections, and spends its whole life copulating in all its sections with itself. Confining ourselves to mammals, however, we find all forms of sexual life—promiscuity, indications of group marriage, polygyny, monogamy. Polyandry alone is lacking—it took human beings to achieve that. Even our nearest relations, the quadruman, exhibit every possible variation in the grouping of males and females; and if we narrow it down still more and consider only the four anthropoid apes, all that Letourneau has to say about them is that they are sometimes monogamous, sometimes polygamous, while Saussure, quoted by Giraud-Teulon, maintains that they are monogamous. The more recent assertions of the monogamous habits of the anthropoid apes which are cited by Westermarck (The History of Human Marriage, London, 1891), are also very far from proving anything. In short, our evidence is such that honest Letourneau admits: “Among mammals there is no strict relation between the degree of intellectual development and the form of sexual life.” And Espinas (Des societes animates, 1877), says in so many words:

The herd is the highest social group which we can observe among animals. It is composed, so it appears, of families, but from the start the family and the herd are in conflict with one another and develop in inverse proportion.

As the above shows, we know practically nothing definite about the family and other social groupings of the anthropoid apes; the evidence is flatly contradictory. Which is not to be wondered at. The evidence with regard to savage human tribes is contradictory enough, requiring very critical examination and sifting; and ape societies are far more difficult to observe than human. For the present, therefore, we must reject any conclusion drawn from such completely unreliable reports.

The sentence quoted from Espinas, however, provides a better starting point. Among the higher animals the herd and the family are not complementary to one another, but antagonistic. Espinas shows very well how the jealousy of the males during the mating season loosens the ties of every social herd or temporarily breaks it up.

When the family bond is close and exclusive, herds form only in exceptional cases. When on the other hand free sexual intercourse or polygamy prevails, the herd comes into being almost spontaneously.... Before a herd can be formed, family ties must be loosened and the individual must have become free again. This is the reason why organized flocks are so rarely found among birds.... We find more or less organized societies among mammals, however, precisely because here the individual is not merged in the family.... In its first growth, therefore, the common feeling of the herd has no greater enemy than the common feeling of the family. We state it without hesitation: only by absorbing families which had undergone a radical change could a social form higher than the family have developed; at the same time, these families were thereby enabled later to constitute themselves afresh under infinitely more favorable circumstances. (Espinas, op. cit., quoted by Giraud-Teulon, Origines du mariage et de la famille, 1884, pp. 518–20).

Here we see that animal societies are, after all, of some value for drawing conclusions about human societies; but the value is only negative. So far as our evidence goes, the higher vertebrates know only two forms of family—polygyny or separate couples; each form allows only one adult male, only one husband. The jealousy of the male, which both consolidates and isolates the family, sets the animal family in opposition to the herd. The jealousy of the males prevents the herd, the higher social form, from coming into existence, or weakens its cohesion, or breaks it up during the mating period; at best, it attests its development. This alone is sufficient proof that animal families and primitive human society are incompatible, and that when primitive men were working their

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11 Bachofen proves how little he understood his own discovery, or rather his guess, by using the term “hetaerism” to describe this primitive state. For the Greeks, when they introduced the word, hetaerism meant intercourse of men, unmarried or living in monogamy, with unmarried women, it always presupposes a definite form of marriage outside which this intercourse takes place and includes at least the possibility of prostitution. The word was never used in any other sense, and it is in this sense that I use it with Morgan. Bachofen everywhere introduces into his extremely important discoveries the most incredible mystifications through his notion that in their historical development the relations between men and women had their origin in men’s contemporary religious conceptions, not in their actual conditions of life.
way up from the animal creation, they either had no family at all or a form that does not occur among animals. In small numbers, an animal so defenseless as evolving man might struggle along even in conditions of isolation, with no higher social grouping than the single male and female pair, such as Westermarck, following the reports of hunters, attributes to the gorillas and the chimpanzees. For man’s development beyond the level of the animals, for the achievement of the greatest advance nature can show, something more was needed: the power of defense lacking to the individual had to be made good by the united strength and co-operation of the herd. To explain the transition to humanity from conditions such as those in which the anthropoid apes live today would be quite impossible; it looks much more as if these apes had strayed off the line of evolution and were gradually dying out or at least degenerating. That alone is sufficient ground for rejecting all attempts based on parallels drawn between forms of family and those of primitive man. Mutual toleration among the adult males, freedom from jealousy, was the first condition for the formation of those larger, permanent groups in which alone animals could become men. And what, in fact, do we find to be the oldest and most primitive form of family whose historical existence we can indisputably prove and which in one or two parts of the world we can still study today? Group marriage, the form of family in which whole groups of men and whole groups of women mutually possess one another, and which leaves little room for jealousy. And at a later stage of development we find the exceptional form of polyandry, which positively revolts every jealous instinct and is therefore unknown among animals. But as all known forms of group marriage are accompanied by such peculiarly complicated regulations that they necessarily point to earlier and simpler forms of sexual relations, and therefore in the last resort to a period of promiscuous intercourse corresponding to the transition from the animal to the human, the references to animal marriages only bring us back to the very point from which we were to be led away for good and all.

What, then, does promiscuous sexual intercourse really mean? It means the absence of prohibitions and restrictions which are or have been in force. We have already seen the barrier of jealousy go down. If there is one thing certain, it is that the feeling of jealousy develops relatively late. The same is true of the conception of incest. Not only were brother and sister originally man and wife; sexual intercourse between parents and children is still permitted among many peoples today. Bancroft (The Native Races of the Pacific States of North America, 1875, Vol. I), testifies to it among the Kadiaks on the Behring Straits, the Kadiaks near Alaska, and the Tinneh in the interior of British North America; Letourneau compiled reports of it among the Chippewa Indians, the Cucus in Chile, the Caribs, the Karens in Burma; to say nothing of the stories told by the old Greeks and Romans about the Parthians, Persians, Scythians, Huns, and so on. Before incest was invented—for incest is an invention, and a very valuable one, too—sexual intercourse between parents and children did not arouse any more repulsion than sexual intercourse between other persons of different generations, and that occurs today even in the most philistine countries without exciting any great horror; even “old maids” of over sixty, if they are rich enough, sometimes marry young men in their thirties. But if we consider the most primitive known forms of family apart from their conceptions of incest—conceptions which are totally different from ours and frequently in direct contradiction to them—then the form of sexual intercourse can only be described as promiscuous—promiscuous in so far as the restrictions later established by custom did not yet exist. But in everyday practice that by no means necessarily implies general mixed mating. Temporary pairings of one man with one woman were not in any way excluded, just as in the cases of group marriages today the majority of relationships are of this character. And when Westermarck, the latest writer to deny the existence of such a primitive state, applies the term “marriage” to every relationship in which the two sexes remain mated until the birth of the offspring, we must point out that this kind of marriage can very well occur under the conditions of promiscuous intercourse without contradicting the principle of promiscuity—the absence of any restriction imposed by custom on sexual intercourse. Westermarck, however, takes the standpoint that promiscuity “involves a suppression of individual inclinations,” and that therefore “the most genuine form of it is prostitution.” In my opinion, any understanding of primitive society is impossible to people who only see it as a brothel. We will return to this point when discussing group marriage.

According to Morgan, from this primitive state of promiscuous intercourse there developed, probably very early:

2.1 The Consanguine Family, The First Stage of the Family

Here the marriage groups are separated according to generations: all the grandfathers and grandmothers within the limits of the family are all husbands and wives of one another; so are also their children, the fathers and mothers; the latter’s children will form a third circle of common husbands and wives; and their children, the great-grandchildren of the first group, will form a fourth. In this form of marriage, therefore, only ancestors and
progeny, and parents and children, are excluded from the rights and duties (as we should say) of marriage with one another. Brothers and sisters, male and female cousins of the first, second, and more remote degrees, are all brothers and sisters of one another, and precisely for that reason they are all husbands and wives of one another. At this stage the relationship of brother and sister also includes as a matter of course the practice of sexual intercourse with one another. In its typical form, such a family would consist of the descendants of a single pair, the descendants of these descendants in each generation being again brothers and sisters, and therefore husbands and wives, of one another.

The consanguine family is extinct. Even the most primitive peoples known to history provide no demonstrable instance of it. But that it must have existed, we are compelled to admit: for the Hawaiian system of consanguinity still prevalent today throughout the whole of Polynesia expresses degrees of consanguinity which could only arise in this form of family; and the whole subsequent development of the family presupposes the existence of the consanguine family as a necessary preparatory stage.

### 2.2 The Punaluan Family

If the first advance in organization consisted in the exclusion of parents and children from sexual intercourse with one another, the second was the exclusion of sister and brother. On account of the greater nearness in age, this second advance was infinitely more important, but also more difficult, than the first. It was effected gradually, beginning probably with the exclusion from sexual intercourse of own brothers and sisters (children of, the same mother) first in isolated cases and then by degrees as a general rule (even in this century exceptions were found in Hawaii), and ending with the prohibition of marriage even between collateral brothers and sisters, or, as we should say, between first, second, and third cousins. It affords, says Morgan, “a good illustration of the operation of the principle of natural selection.” There can be no question that the tribes among whom inbreeding was restricted by this advance were bound to develop more quickly and more fully than those among whom marriage between brothers and sisters remained the rule and the law. How powerfully the influence of this advance made itself felt is seen in the institution which arose directly out of it and went far beyond it—the gens, which forms the basis of the social order of most, if not all, barbarian peoples of the earth and from which in Greece and Rome we step directly into civilization.

After a few generations at most, every original family was bound to split up. The practice of living together in a primitive communistic household, which prevailed without exception till late in the middle stage of barbarism, set a limit, varying with the conditions but fairly definite in each locality, to the maximum size of the family community. As soon as the conception arose that sexual intercourse between children of the same mother was wrong, it was bound to exert its influence when the old households split up and new ones were founded (though these did not necessarily coincide with the family group). One or more lines of sisters would form the nucleus of the one household and their own brothers the nucleus of the other. It must have been in some such manner as this that the form which Morgan calls the punualuan family originated out of the consanguine family. According to the Hawaiian custom, a number of sisters, own or collateral (first, second or more remote cousins) were the common wives of their common husbands, from among whom, however, their own brothers were excluded; these husbands now no longer called themselves brothers, for they were no longer necessarily brothers, but punualu—that is, intimate companion, or partner. Similarly, a line of own or collateral brothers had a number of women, not their sisters, as common wives, and these wives called one another punualu. This was the classic form of a type of family, in which later a number of variations was possible, but whose essential feature was: mutually common possession of husbands and wives within a definite family circle, from which, however, the brothers of the wives, first own and later also collateral, and conversely

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12 In a letter written in the spring of 1882, Marx expresses himself in the strongest terms about the complete misrepresentation of primitive times in Wagner’s text to the Nibelangen: “Have such things been heard, that brother embraced sister as a bride?” To Wagner and his “lecherous gods” who, quite in the modern manner, spice their love affairs with a little incest, Marx replies: “In primitive times the sister was the wife, and that was moral.”

13 NOTE in Fourth edition: A French friend of mine who is an admirer of Wagner is not in agreement with this note. He observes that already in the Elder Edda, on which Wagner based his story, in the ÓEgíþdrækt, Loki makes the reproach to Freya: “In the sight of the gods thou didst embrace thine own brother.” Marriage between brother and sister, he argues, was therefore forbidden already at that time. The ÓEgíþdrækt is the expression of a time when belief in the old myths had completely broken down; it is purely a satire on the gods, in the style of Lucian. If Loki as Mephisto makes such a reproach to Freya, it tells rather against Wagner. Loki also says some lines later to Niorddr: “With thy sister didst thou breed son.” (vidh systur thinni gaztu slikan mog) Niorddr is not, indeed, an Asa, but a Vana, and says in the Ynglinga saga that marriages between brothers and sisters are usual in Vanaland, which was not the case among the Asas. This would seem to show that the Vanas were more ancient gods than the Asas. At any rate, Niorddr lives among the ÓEgíþdrækt is rather a proof that at the time when the Norse sagas of the gods arose, marriages between brothers and sisters, at any rate among the gods, did not yet excite any horror. If one wants to find excuses for Wagner, it would perhaps be better to cite Goethe instead of the Edda, for in his ballad of the God and the Bayadere Goethe commits a similar mistake in regard to the religious surrender of women, which he makes far too similar to modern prostitution.
also the sisters of the husbands, were excluded.

This form of the family provides with the most complete exactness the degrees of consanguinity expressed in the American system. The children of my mother’s sisters are still her children, just as the children of my father’s brothers are also his children; and they are all my brothers and sisters. But the children of my mother’s brothers are now her nephews and nieces, the children of my father’s sisters are his nephews and nieces, and they are all my male and female cousins. For while the husbands of my mother’s sisters are still her husbands, and the wives of my father’s brothers are still his wives (in right, if not always in fact), the social ban on sexual intercourse between brothers and sisters has now divided the children of brothers and sisters, who had hitherto been treated as own brothers and sisters, into two classes: those in the one class remain brothers and sisters as before (collateral, according to our system); those in the other class, the children of my mother’s brother in the one case and of my father’s sister in the other, cannot be brothers and sisters any longer, they can no longer have common parents, neither father nor mother nor both, and therefore now for the first time the class of nephews and nieces, male and female cousins becomes necessary, which in the earlier composition of the family would have been senseless. The American system of consanguinity, which appears purely nonsensical in any form of family based on any variety of monogamy, finds, down to the smallest details, its rational explanation and its natural foundation in the punaluan family. The punaluan family or a form similar to it must have been at the very least as widespread as this system of consanguinity.

Evidence of this form of family, whose existence has actually been proved in Hawaii, would probably have been received from all over Polynesia if the pious missionaries, like the Spanish monks of former days in America, had been able to see in such unchristian conditions anything more than a sheer “abomination.”

Caesar’s report of the Britons, who were at that time in the middle stage of barbarism, “every ten or twelve have wives in common, especially brothers with brothers and parents with children,” is best explained as group marriage. Barbarian mothers do not have ten or twelve sons of their own old enough to keep wives in common, but the American system of consanguinity, which corresponds to the punaluan family, provides numerous brothers, because all a man’s cousins, near and distant, are his brothers. Caesar’s mention of “parents with children” may be due to misunderstanding on his part; it is not, however, absolutely impossible under this system that father and son or mother and daughter should be included in the same marriage group, though not father and daughter or mother and son. This or a similar form of group marriage also provides the simplest explanation of the accounts in Herodotus and other ancient writers about community of wives among savages and barbarian peoples. The same applies also to the reports of Watson and Kaye in their book, The People of India, about the Teehurs in Oudh (north of the Ganges): “Both sexes have but a nominal tie on each other, and they change connection without compunction; living together, almost indiscriminately, in many large families.”

In the very great majority of cases the institution of the gens seems to have originated directly out of the punaluan family. It is true that the Australian classificatory system also provides an origin for it: the Australians have gentes, but not yet the punaluan family; instead, they have a cruder form of group marriage. In all forms of group family it is uncertain who is the father of a child; but it is certain who its mother is. Though she calls all the children of the whole family her children and has a mother’s duties towards them, she nevertheless knows her own children from the others. It is therefore clear that in so far as group marriage prevails, descent can only be proved on the mother’s side and that therefore only the female line is recognized. And this is in fact the case among all peoples in the period of savagery or in the lower stage of barbarism. It is the second great merit of Bachofen that he was the first to make this discovery. To denote this exclusive recognition of descent through the mother and the relations of inheritance which in time resulted from it, he uses the term “mother-right,” which for the sake of brevity I retain. The term is, however, ill-chosen, since at this stage of society there cannot yet be any talk of “right” in the legal sense.

If we now take one of the two standard groups of the punaluan family, namely a line of own and collateral sisters (that is, own sisters’ children in the first, second or third degree), together with their children and their own collateral brothers on the mother’s side (who, according to our assumption, are not their husbands), we have the exact circle of persons whom we later find as members of a gens, in the original form of that institution. They all have a common ancestral mother, by virtue of their descent from whom the female offspring in each generation are sisters. The husbands of these sisters, however, can no longer be their brothers and therefore cannot be descended from the same ancestral mother; consequently, they do not belong to the same consanguine group, the
later gens. The children of these sisters, however, do belong to this group, because descent on the mother’s side alone counts, since it alone is certain. As soon as the ban had been established on sexual intercourse between all brothers and sisters, including the most remote collateral relatives on the mother’s side, this group transformed itself into a gens—that is, it constituted itself a firm circle of blood relations in the female line, between whom marriage was prohibited; and henceforward by other common institutions of a social and religious character it increasingly consolidated and differentiated itself from the other gentes of the same tribe. More of this later. When we see, then, that the development of the gens follows, not only necessarily, but also perfectly naturally from the punaluan family, we may reasonably infer that at one time this form of family almost certainly existed among all peoples among whom the presence of gentile institutions can be proved—that is, practically all barbarians and civilized peoples.

At the time Morgan wrote his book, our knowledge of group marriage was still very limited. A little information was available about the group marriages of the Australians, who were organized in classes, and Morgan had already, in 1871, published the reports he had received concerning the punaluan family in Hawaii. The punaluan family provided, on the one hand, the complete explanation of the system of consanguinity in force among the American Indians, which had been the starting point of all Morgan’s researches; on the other hand, the origin of the matriarchal gens could be derived directly from the punaluan family; further, the punaluan family represented a much higher stage of development than the Australian classificatory system. It is therefore comprehensible that Morgan should have regarded it as the necessary stage of development before pairing marriage and should believe it to have been general in earlier times. Since then we have become acquainted with a number of other forms of group marriage, and we now know that Morgan here went too far. However, in his punaluan family he had had the good fortune to strike the highest, the classic form of group marriage, from which the transition to a higher stage can be explained most simply.

For the most important additions to our knowledge of group marriage we are indebted to the English missionary, Lorimer Fison, who for years studied this form of the family in its classic home, Australia. He found the lowest stage of development among the Australian aborigines of Mount Gambier in South Australia. Here the whole tribe is divided into two great exogamous classes or moieties, Kroki and Kumite. Sexual intercourse within each of these moieties is strictly forbidden; on the other hand, every man in the one moiety is the husband by birth of every woman in the other moiety and she is by birth his wife. Not the individuals, but the entire groups are married, moiety with moiety. And observe that there is no exclusion on the ground of difference in age or particular degrees of affinity, except such as is entailed by the division of the tribe into two exogamous classes. A Kroki has every Kumite woman lawfully to wife; but, as his own daughter according to mother-right is also a Kumite, being the daughter of a Kumite woman, she is by birth the wife of every Kroki, including, therefore, her father. At any rate, there is no bar against this in the organization into moieties as we know it. Either, then, this organization arose at a time when, in spite of the obscure impulse towards the restriction of inbreeding, sexual intercourse between parents and children was still not felt to be particularly horrible—in which case the moiety system must have originated directly out of a state of sexual promiscuity; or else intercourse between parents and children was already forbidden by custom when the moieties arose, and in that case the present conditions point back to the consanguine family and are the first step beyond it. The latter is more probable. There are not, to my knowledge, any instances from Australia of sexual cohabitation between parents and children, and as a rule the later form of exogamy, the matriarchal gens, also tacitly presupposes the prohibition of this relationship as already in force when the gens came into being.

The system of two moieties is found, not only at Mount Gambier in South Australia, but also on the Darling River further to the east and in Queensland in the northeast; it is therefore widely distributed. It excludes marriages only between brothers and sisters, between the children of brothers and between the children of sisters on the mother’s side, because these belong to the same moiety; the children of sisters and brothers, however, may marry. A further step towards the prevention of inbreeding was taken by the Kambiloi on the Darling River in New South Wales; the two original moieties are split up into four, and again each of these four sections is married en bloc to another. The first two sections are husbands and wives of one another by birth; according to whether the mother belonged to the first or second section, the children go into the third or fourth; the children of these last two sections, which are also married to one another, come again into the first and second sections. Thus one generation always belongs to the first and second sections, the next to the third and fourth, and the generation after that to the first and second again. Under this system, first cousins (on the mother’s side) cannot be man and wife, but second cousins can. This peculiarly complicated arrangement is made still more intricate by having matriarchal gentes grafted onto it (at any rate later), but we cannot go into the details of this now. What is significant is how the urge towards the preven-
tion of inbreeding asserts itself again and again, feeling its way, however, quite instinctively, without clear consciousness of its aim.

Group marriage which in these instances from Australia is still marriage of sections, mass marriage of an entire section of men, often scattered over the whole continent, with an equally widely distributed section of women—this group marriage, seen close at hand, does not look quite so terrible as the philistines, whose minds cannot get beyond brothels, imagine it to be. On the contrary, for years its existence was not even suspected and has now quite recently been questioned again. All that the superficial observer sees in group marriage is a loose form of monogamous marriage, here and there polygyny, and occasional infidelities. It takes years, as it took Fison and Howlett, to discover beneath these marriage customs, which in their actual practice should seem almost familiar to the average European, their controlling law: the law by which the Australian aborigine, wandering hundreds of miles from his home among people whose language he does not understand, nevertheless often finds in every camp and every tribe women who give themselves to him without resistance and without resentment; the law by which the man with several wives gives one up for the night to his guest. Where the European sees immorality and lawlessness, strict law rules in reality. The women belong to the marriage group of the stranger, and therefore they are his wives by birth; that same law of custom which gives the two to one another forbids under penalty of outlawry all intercourse outside the marriage groups that belong together. Even when wives are captured, as frequently occurs in many places, the law of the exogamous classes is still carefully observed.

Marriage by capture, it may be remarked, already shows signs of the transition to monogamous marriage, at least in the form of pairing marriage. When the young man has captured or abducted a girl, with the help of his friends, she is enjoyed by all of them in turn, but afterwards she is regarded as the wife of the young man who instigated her capture. If, on the other hand, the captured woman runs away from her husband and is caught by another man, she becomes his wife and the first husband loses his rights. Thus while group marriage continues to exist as the general form, side by side with group marriage and within it exclusive relationships begin to form, pairings for a longer or shorter period, also polygyny; thus group marriage is dying out here, too, and the only question is which will disappear first under European influence: group marriage or the Australian aborigines who practice it. Marriage between entire sections, as it prevails in Australia, is in any case a very low and primitive form of group marriage, whereas the punaluan family, so far as we know, represents its highest stage of development. The former appears to be the form corresponding to the social level of vagrant savages, while the latter already presupposes relatively permanent settlements of communistic communities and leads immediately to the successive higher phase of development. But we shall certainly find more than one intermediate stage between these two forms; here lies a newly discovered field of research which is still almost completely unexplored.

2.3 The Pairing Family

A certain amount of pairing, for a longer or shorter period, already occurred in group marriage or even earlier; the man had a chief wife among his many wives (one can hardly yet speak of a favorite wife), and for her he was the most important among her husbands. This fact has contributed considerably to the confusion of the missionaries, who have regarded group marriage sometimes as promiscuous community of wives, sometimes as unbridled adultery. But these customary pairings were bound to grow more stable as the gens developed and the classes of “brothers” and “sisters” between whom marriage was impossible became more numerous. The impulse given by the gens to the prevention of marriage between blood relatives extended still further. Thus among the Iroquois and most of the other Indians at the lower stage of barbarism we find that marriage is prohibited between all relatives enumerated in their system—which includes several hundred degrees of kinship. The increasing complication of these prohibitions made group marriages more and more impossible; they were displaced by the pairing family. In this stage, one man lives with one woman, but the relationship is such that polygamy and occasional infidelity remain the right of the men, even though for economic reasons polygamy is rare, while from the woman the strictest fidelity is generally demanded throughout the time she lives with the man, and adultery on her part is cruelly punished. The marriage tie can, however, be easily dissolved by either partner; after separation, the children still belong, as before, to the mother alone.

In this ever extending exclusion of blood relatives from the bond of marriage, natural selection continues its work. In Morgan’s words:

The influence of the new practice, which brought unrelated persons into the marriage relation, tended to create a more vigorous stock physically and mentally. . . . When two advancing tribes, with strong mental and physical characters, are brought together and blended into one people by the accidents of barbarous life, the new skull and brain would widen and lengthen to the sum of the capabilities of both. (Morgan, Op. cit., p. 468.—Ed.)

Tribes with gentile constitution were thus bound to gain supremacy over more backward tribes, or else to
Thus the history of the family in primitive times consists in the progressive narrowing of the circle, originally embracing the whole tribe, within which the two sexes have a common conjugal relation. The continuous exclusion, first of nearer, then of more and more remote relatives, and at last even of relatives by marriage, ends by making any kind of group marriage practically impossible. Finally, there remains only the single, still loosely linked pair, the molecule with whose dissolution marriage itself ceases. This in itself shows what a small part individual sex-love, in the modern sense of the word, played in the rise of monogamy. Yet stronger proof is afforded by the practice of all peoples at this stage of development. Whereas in the earlier forms of the family men never lacked women, but, on the contrary, had too many rather than too few, women had now become scarce and highly sought after. Hence it is with the pairing marriage that there begins the capture and purchase of women—widespread symptoms, but no more than symptoms, of the much deeper change that had occurred. These symptoms, mere methods of procuring wives, the pedantic Scot, McLennan, has transmogrified into special classes of families under the names of “marriage by capture” and “marriage by purchase.” In general, whether among the American Indians or other peoples (at the same stage), the conclusion of a marriage is the affair, not of the two parties concerned, who are often not consulted at all, but of their mothers. Two persons entirely unknown to each other are often thus affianced; they only learn that the bargain has been struck when the time for marrying approaches. Before the wedding the bridegroom gives presents to the bride’s gentile relatives (to those on the mother’s side, therefore, not to the father and his relations), which are regarded as gift payments in return for the girl. The marriage is still terminable at the desire of either partner, but among many tribes, the Iroquois, for example, public opinion has gradually developed against such separations; when differences arise between husband and wife, the gens relatives of both partners act as mediators, and only if these efforts prove fruitless does a separation take place, the wife then keeping the children and each partner being free to marry again.

The pairing family, itself too weak and unstable to make an independent household necessary or even desirable, in no wise destroys the communistic household inherited from earlier times. Communistic housekeeping, however, means the supremacy of women in the house; just as the exclusive recognition of the female parent, owing to the impossibility of recognizing the male parent with certainty, means that the women—the mothers—are held in high respect. One of the most absurd notions taken over from eighteenth-century enlightenment is that in the beginning of society woman was the slave of man. Among all savages and all barbarians of the lower and middle stages, and to a certain extent of the upper stage also, the position of women is not only free, but honorable. As to what it still is in the pairing marriage, let us hear the evidence of Ashur Wright, for many years missionary among the Iroquois Senecas:

As to their family system, when occupying the old long-houses (communistic households comprising several families), it is probable that some one clan (gens) predominated, the women taking in husbands, however, from the other clans (gentes) … Usually, the female portion ruled the house. … The stores were in common; but woe to the luckless husband or lover who was too shiftless to do his share of the providing. No matter how many children, or whatever goods he might have in the house, he might at any time be ordered to pick up his blanket and budge; and after such orders it would not be healthful for him to attempt to disobey. The house would be too hot for him; and … he must retreat to his own clan (gens); or, as was often done, go and start a new matrimonial alliance in some other. The women were the great power among the clans (gentes), as everywhere else. They did not hesitate, when occasion required, “to knock off the horns,” as it was technically called, from the head of a chief, and send him back to the ranks of the warriors. (Quoted by Morgan, op. cit., p. 464.—Ed.)

The communistic household, in which most or all of the women belong to one and the same gens, while the men come from various gentes, is the material foundation of that supremacy of the women which was general in primitive times, and which it is Bachtoven’s third great merit to have discovered. The reports of travelers and missionaries, I may add, to the effect that women among savages and barbarians are overburdened with work in no way contradict what has been said. The division of labor between the two sexes is determined by quite other causes than by the position of woman in society. Among peoples where the women have to work far harder than we think suitable, there is often much more real respect for women than among our Europeans. The lady of civilization, surrounded by false homage and estranged from all real work, has an infinitely lower social position than the hard-working woman of barbarism, who was regarded among her people as a real lady (lady, frowa, Frau—mistress) and who was also a lady in character.

Whether pairing marriage has completely supplanted group marriage in America today is a question to be decided by closer investigation among the peoples still at the upper stage of savagery in the northwest, and particularly in South America. Among the latter, so many instances of sexual license are related that one can hardly assume the old group marriage to have been completely overcome here. At any rate, all traces of it have not yet disappeared. In at least forty North American tribes the man who marries an eldest sister has the right to take
all her other sisters as his wives as soon as they are old enough—a relic of the time when a whole line of sisters had husbands in common. And Bancroft reports of the Indians of the California peninsula (upper stage of savagery) that they have certain festivals when several “tribes” come together for the purpose of promiscuous sexual intercourse. These “tribes” are clearly gentes, who preserve in these feasts a dim memory of the time when the women of one gens had all the men of the other as their common husbands, and conversely. The same custom still prevails in Australia. We find among some peoples that the older men, the chieftains and the magician-priests, exploit the community of wives and monopolize most of the women for themselves; at certain festivals and great assemblies of the people, however, they have to restore the old community of women and allow their wives to enjoy themselves with the young men. Westermarck (History of Human Marriage, 1891, Pp. 28, 29) quotes a whole series of instances of such periodic Saturnalian feasts, when for a short time the old freedom of sexual intercourse is again restored: examples are given among the Hos, the Santals, the Punjas and Kotars in India, among some African peoples, and so forth. Curiously enough, Westermarck draws the conclusion that these are survivals, not of the group marriage, which he totally rejects, but of the mating season which primitive man had in common with the other animals.

Here we come to Bachofen’s fourth great discovery—the widespread transitional form between group marriage and pairing. What Bachofen represents as a penance for the transgression of the old divine laws—the penance by which the woman purchases the right of chastity—is in fact only a mystical expression of the penance by which the woman buys herself out of the old community of husbands and acquires the right to give herself to one man only. This penance consists in a limited surrender: the Babylonian women had to give themselves once a year in the temple of Mylitta; other peoples of Asia Minor sent their girls for years to the temple of Anaitis, where they had to practice free love with favorites of their own choosing before they were allowed to marry. Similar customs in religious disguise are common to almost all Asiatic peoples between the Mediterranean and the Ganges. The sacrifice of atonement by which the woman purchases her freedom becomes increasingly lighter in course of time, as Bachofen already noted:

Instead of being repeated annually, the offering is made once only; the hetaerism of the matrons is succeeded by the hetaerism of the maidens; hetaerism during marriage by hetaerism before marriage; surrender to all without choice by surrender to some. (Mutterrecht, p. xix.)

Among other peoples the religious disguise is absent. In some cases—among the Thracians, Celts, and others, in classical times, many of the original inhabitants of India, and to this day among the Malayan peoples, the South Sea Islanders and many American Indians—the girls enjoy the greatest sexual freedom up to the time of their marriage. This is especially the case almost everywhere in South America, as everyone who has gone any distance into the interior can testify. Thus Agassiz (A Journey in Brazil, Boston and New York, 1868, p. 266) tells this story of a rich family of Indian extraction: when he was introduced to the daughter, he asked after her father, presuming him to be her mother’s husband, who was fighting as an officer in the war against Paraguay; but the mother answered with a smile: “Nao tem pai, e filha da fortuna” (She has no father. She is a child of chance):

It is the way the Indian or half-breed women here always speak of their illegitimate children . . . without an intonation of sadness or of blame . . . So far is this from being an unusual case, that . . . the opposite seems the exception. Children are frequently quite ignorant of their parentage. They know about their mother, for all the care and responsibility falls upon her, but they have no knowledge of their father; nor does it seem to occur to the woman that she or her children have any claim upon him.

What seems strange here to civilized people is simply the rule according to mother-right and in group marriage.

Among other peoples, again, the friends and relatives of the bridegroom, or the wedding guests, claim their traditional right to the bride at the wedding itself, and the bridegroom’s turn only comes last; this was the custom in the Balearic Islands and among the Augilers of Africa in ancient times; it is still observed among the Bareas of Abyssinia. In other cases, an official personage, the head of the tribe or the gens, cacique, shaman, priest, prince or whatever he may be called, represents the community and exercises the right of the first night with the bride. Despite all necromantic whitewashing, this jus prime noctis (Right of first night.—Ed.) still persists today as a relic of group marriage among most of the natives of the Alaska region (Bancroft, Native Races, I, p. 8i), the Tahus of North Mexico (Ibid., P. 584) and other peoples; and at any rate in the countries originally Celtic, where it was handed down directly from group marriage, it existed throughout the whole of the middle ages, for example, in Aragon. While in Castile the peasants were never serfs, in Aragon there was serfdom of the most shameful kind right up till the decree of Ferdinand the Catholic in 1486. This document states:

We judge and declare that the aforementioned lords (senors, barons) . . . when the peasant takes himself a wife, shall neither sleep with her on the first night; nor shall they during the wedding-night, when the wife has laid herself in her bed, step over it and the aforementioned wife as a sign of lordship; nor shall the aforementioned lords use the daughter or the son of the peasant, with payment or without payment, against their will. (Quoted in the original Catalan by Sugenheim, Serfdom, Petersburg, 1861, p.
Bachofen is also perfectly right when he consistently maintains that the transition from what he calls “Het-aerism” or “Sumpfzeugung” to monogamy was brought about primarily through the women. The more the traditional sexual relations lost the native primitive character of forest life, owing to the development of economic conditions with consequent undermining of the old communism and growing density of population, the more oppressive and humiliating must the women have felt them to be, and the greater their longing for the right of chastity, of temporary or permanent marriage with one man only, as a way of release. This advance could not in any case have originated with the men, if only because it has never occurred to them, even to this day, to renounce the pleasures of actual group marriage. Only when the women had brought about the transition to pairing marriage were the men able to introduce strict monogamy—though indeed only for women.

The first beginnings of the pairing family appear on the dividing line between savagery and barbarism; they are generally to be found already at the upper stage of savagery, but occasionally not until the lower stage of barbarism. The pairing family is the form characteristic of barbarism, as group marriage is characteristic of savagery and monogamy of civilization. To develop it further, to strict monogamy, other causes were required than those we have found active hitherto. In the single pair the group was already reduced to its final unit, its two-atom molecule: one man and one woman. Natural selection, with its progressive exclusions from the marriage community, had accomplished its task; there was nothing more for it to do in this direction. Unless new, social forces came into play, there was no reason why a new form of family should arise from the single pair. But these new forces did come into play.

We now leave America, the classic soil of the pairing family. No sign allows us to conclude that a higher form of family developed here, or that there was ever permanent monogamy anywhere in America prior to its discovery and conquest. But not so in the Old World.

Here the domestication of animals and the breeding of herds had developed a hitherto unsuspected source of wealth and created entirely new social relations. Up to the lower stage of barbarism, permanent wealth had consisted almost solely of house, clothing, crude ornaments and the tools for obtaining and preparing food—boat, weapons, and domestic utensils of the simplest kind. Food had to be won afresh day by day. Now, with their herds of horses, camels, asses, cattle, sheep, goats, and pigs, the advancing pastoral peoples—the Semites on the Euphrates and the Tigris, and the Aryans in the Indian country of the Five Streams (Punjab), in the Ganges region, and in the steppes then much more abundantly watered of the Oxus and the Jaxartes—had acquired property which only needed supervision and the rudest care to reproduce itself in steadily increasing quantities and to supply the most abundant food in the form of milk and meat. All former means of procuring food now receded into the background; hunting, formerly a necessity, now became a luxury.

But to whom did this new wealth belong? Originally to the gens, without a doubt. Private property in herds must have already started at an early period, however. It is difficult to say whether the author of the so-called first book of Moses regarded the patriarch Abraham as the owner of his herds in his own right as head of a family community or by right of his position as actual hereditary head of a gens. What is certain is that we must not think of him as a property owner in the modern sense of the word. And it is also certain that at the threshold of authentic history we already find the herds everywhere separately owned by heads of families, as are the artistic products of barbarism—metal implements, luxury articles and, finally, the human cattle—the slaves.

For now slavery had also been invented. To the barbarian of the lower stage, a slave was valueless. Hence the treatment of defeated enemies by the American Indians was quite different from that at a higher stage. The men were killed or adopted as brothers into the tribe of the victors; the women were taken as wives or otherwise adopted with their surviving children. At this stage human labor-power still does not produce any considerable surplus over and above its maintenance costs. That was no longer the case after the introduction of cattle-breeding, metalworking, weaving and, lastly, agriculture. As just as the wives whom it had formerly been so easy to obtain had now acquired an exchange value and were bought, so also with the forces of labor, particularly since the herds had definitely become family possessions. The family did not multiply so rapidly as the cattle. More people were needed to look after them; for this purpose use could be made of the enemies captured in war, who could also be bred just as easily as the cattle themselves.

Once it had passed into the private possession of families and there rapidly begun to augment, this wealth dealt a severe blow to the society founded on pairing marriage and the matriarchal gens. Pairing marriage had brought a new element into the family. By the side of the natural mother of the child it placed its natural and attested father, with a better warrant of paternity, probably, than that of many a “father” today. According to the division of labor within the family at that time, it was the man’s part to obtain food and the instruments of labor necessary for the purpose. He therefore also owned the instruments of labor, and in the event of husband and wife separating,
he took them with him, just as she retained her household goods. Therefore, according to the social custom of the time, the man was also the owner of the new source of subsistence, the cattle, and later of the new instruments of labor, the slaves. But according to the custom of the same society, his children could not inherit from him. For as regards inheritance, the position was as follows:

At first, according to mother-right—so long, therefore, as descent was reckoned only in the female line—and according to the original custom of inheritance within the gens, the gentile relatives inherited from a deceased fellow member of their gens. His property had to remain within the gens. His effects being insignificant, they probably always passed in practice to his nearest gentile relations—that is, to his blood relations on the mother’s side. The children of the dead man, however, did not belong to his gens, but to that of their mother; it was from her that they inherited, at first conjointly with her other blood relations, later perhaps with rights of priority; they could not inherit from their father, because they did not belong to his gens, within which his property had to remain. When the owner of the herds died, therefore, his herds would go first to his brothers and sisters and to his sister’s children, or to the issue of his mother’s sisters. But his own children were disinherited.

Thus, on the one hand, in proportion as wealth increased, it made the man’s position in the family more important than the woman’s, and on the other hand created an impulse to exploit this strengthened position in order to overthrow, in favor of his children, the traditional order of inheritance. This, however, was impossible so long as descent was reckoned according to mother-right. Mother-right, therefore, had to be overthrown, and overthrown it was. This was by no means so difficult as it looks to us today. For this revolution—one of the most decisive ever experienced by humanity—could take place without disturbing a single one of the living members of a gens. All could remain as they were. A simple decree sufficed that in the future the offspring of the man should remain within the gens, but that of the female should be excluded by being transferred to the gens of their father. The reckoning of descent in the female line and the matriarchal law of inheritance were thereby overthrown, and the male line of descent and the paternal law of inheritance were substituted for them. As a result produced, it was not at first even referred to the married pair and their children, but only to the slaves. Among the Shawnees, Miamis and Delawares the custom has grown up of giving the children a gentile name of their father’s gens in order to transfer them into it, thus enabling them to inherit from him.

Man’s innate casuistry! To change things by changing their names! And to find loopholes for violating tradition while maintaining tradition, when direct interest supplied sufficient impulse. (Marx.)

The result was hopeless confusion, which could only be remedied and to a certain extent was remedied by the transition to father-right. “In general, this seems to be the most natural transition.” (Marx.) For the theories professed by comparative jurisprudence regarding the manner in which this change was effected among the civilized peoples of the Old World—though they are almost pure hypothesize M. Kovalevsky, Tableau des origines et de l’évolution de la famille et de la propriete. Stockholm, 1890.

The overthrow of mother-right was the world historical defeat of the female sex. The man took command in the home also; the woman was degraded and reduced to servitude, she became the slave of his lust and a mere instrument for the production of children. This degraded position of the woman, especially conspicuous among the Greeks of the heroic and still more of the classical age, has gradually been palliated and glozed over, and sometimes clothed in a milder form; in no sense has it been abolished.

The establishment of the exclusive supremacy of the man shows its effects first in the patriarchal family, which now emerges as an intermediate form. Its essential characteristic is not polygyny, of which more later, but “the organization of a number of persons, bond and free, into a family, under paternal power, for the purpose of holding lands, and for the care of flocks and herds.... (In the Semitic form) the chiefs, at least, lived in polygamy.... Those held to servitude, and those employed as servants, lived in the marriage relation.”


Its essential features are the incorporation of unfree persons, and paternal power; hence the perfect type of this form of family is the Roman. The original meaning of the word “family” (familia) is not that compound of sentimentality and domestic strife which forms the ideal of the present-day philistine; among the Romans it did not at first even refer to the married pair and their children, but only to the slaves. Famulus means domestic slave, and familia is the total number of slaves belonging...
to one man. As late as the time of Gaius, the familia, id est patrimonium (family, that is, the patrimony, the inheritance) was bequeathed by will. The term was invented by the Romans to denote a new social organism, whose head ruled over wife and children and a number of slaves, and was invested under Roman paternal power with rights of life and death over them all.

This term, therefore, is no older than the iron-clad family system of the Latin tribes, which came in after field agriculture and after legalized servitude, as well as after the separation of Greeks and Latins. (Morgan, Op. cit., p. 478)

Marx adds:

The modern family contains in germ not only slavery (servitus), but also serfdom, since from the beginning it is related to agricultural services. It contains in miniature all the contradictions which later extend throughout society and its state.

Such a form of family shows the transition of the pairing family to monogamy. In order to make certain of the wife’s fidelity and therefore of the paternity of the children, she is delivered over unconditionally into the power of the husband; if he kills her, he is only exercising his rights.

With the patriarchal family, we enter the field of written history a field where comparative jurisprudence can give valuable help. And it has in fact brought an important advance in our knowledge. We owe to Maxim Kovalevsky (Tableau etc. de la mine et de propriete, Stockholm, 1890, pp. 60–100), the proof that the patriarchal household community, as we still find it today among the Serbs and the Bulgars under the name of zadruga (which may be roughly translated “bond of friendship”) or bratstvo (brotherhood), and in a modified form among the Oriental peoples, formed the transitional stage between the matriarchal family deriving from group marriage and the single family of the modern world. For the civilized peoples of the Old World, for the Aryans and Semites at any rate, this seems to be established.

The Southern Slav zadruga provides the best instance of such a family community still in actual existence. It comprises several generations of the descendants of one father, together with their wives, who all live together in one homestead, cultivate their fields in common, feed and clothe themselves from a common stock, and possess in common the surplus from their labor. The community is under the supreme direction of the head of the house (domacin), who acts as its representative outside, has the right to sell minor objects, and controls the funds, for which, as for the regular organization of business, he is responsible. He is elected, and it is not at all necessary that he should be the oldest in the community. The women and their work are under the control of the mistress of the house (domacica), who is generally the wife of the domacin. She also has an important and often a decisive voice in the choice of husbands for the girls. Supreme power rests, however, with the family council, the assembly of all the adult members of the household, women as well as men. To this assembly the master of the house renders account; it takes all important decisions, exercises jurisdiction over the members, decides on sales and purchases of any importance, especially of land and so on.

It is only within the last ten years or so that such great family communities have been proved to be still in existence in Russia; it is now generally recognized that they are as firmly rooted in the customs of the Russian people as the obshchina or village community. They appear in the oldest Russian code of laws, the Pravda of Yaroslav, under the same name as in the Dalmatian laws (vervj), and references to them can also be traced in Polish and Czech historical sources.

Among the Germans also, according to Heusler (Institutionen des deutschen Rechts), the economic unit was originally not the single family in the modern sense, but the “house community,” which consisted of several generations or several single families, and often enough included unfree persons as well. The Roman family is now also considered to have originated from this type, and consequently the absolute power of the father of the house, and the complete absence of rights among the other members of the family in relation to him, have recently been strongly questioned. It is supposed that similar family communities also existed among the Celts in Ireland; in France, under the name of parconneries, they survived in Nivernais until the French Revolution, and in the Franche Comte they have not completely died out even today (1884). In the district of Louhans (Saone et Loire) large peasant houses can be seen in which live several generations of the same family; the house has a lofty common hall reaching to the roof, and surrounding it the sleeping-rooms, to which stairs of six or eight steps give access.

In India, the household community with common cultivation of the land is already mentioned by Nearchus in the time of Alexander the Great, and it still exists today in the same region, in the Punjab and the whole of northwest India. Kovalevsky was himself able to prove its existence in the Caucasus. In Algeria it survives among the Kabyles. It is supposed to have occurred even in America, and the calpullis which Zurita describes in old Mexico have been identified with it; on the other hand, Cunow has proved fairly clearly (in the journal Ausland, 1890, Nos. 42–44) that in Peru at the time of the conquest there was a form of constitution based on marks (called, curiously enough, marca), with periodical allotment of arable land and consequently with individual
tillage. In any case, the patriarchal household community with common ownership and common cultivation of the land now assumes an entirely different significance than hitherto. We can no longer doubt the important part it played, as a transitional form between the matriarchal family and the single family, among civilized and other peoples of the Old World. Later we will return to the further conclusion drawn by Kovalevsky that it was also the transitional form out of which developed the village, or mark, community with individual tillage and the allotment, first periodical and then permanent, of arable and pasture land.

With regard to the family life within these communities, it must be observed that at any rate in Russia the master of the house has a reputation for violently abusing his position towards the younger women of the community, especially his daughters-in-law, whom he of ten converts into his harem; the Russian folk-songs have more than a little to say about this.

Before we go on to monogamy, which developed rapidly with the overthrow of mother-right, a few words about polygyny and polyandry. Both forms can only be exceptions, historical luxury products, as it were, unless they occur side by side in the same country, which is, of course, not the case. As the men excluded from polygyny cannot console themselves with the women left over from polyandry, and as hitherto, regardless of social institutions, the number of men and women has been fairly equal, it is obviously impossible for either of these forms of marriage to be elevated to the general form. Polygyny on the part of one individual man was, in fact, obviously a product of slavery and confined to a few people in exceptional positions. In the Semitic patriarchal family it was only the patriarch himself, and a few of his sons at most, who lived in polygyny; the rest had to content themselves with one wife. This still holds throughout the whole of the Orient; polygyny is the privilege of the wealthy and of the nobility, the women being recruited chiefly through purchase as slaves; the mass of the people live in monogamy.

A similar exception is the polyandry of India and Tibet, the origin of which in group marriage requires closer examination and would certainly prove interesting. It seems to be much more easy-going in practice than the jealous harems of the Mohammedans. At any rate, among the Nairs in India, where three or four men have a wife in common, each of them can have a second wife in common with another three or more men, and similarly a third and a fourth and so on. It is a wonder that McLennan did not discover in these marriage clubs, to several of which one could belong and which he himself describes, a new class of club marriage! This marriage-club system, however, is not real polyandry at all; on the contrary, as Giraud-Teulon has already pointed out, it is a specialized form of group marriage; the men live in polygyny, the women in polyandry.

### 2.4 The Monogamous Family

It develops out of the pairing family, as previously shown, in the transitional period between the upper and middle stages of barbarism; its decisive victory is one of the signs that civilization is beginning. It is based on the supremacy of the man, the express purpose being to produce children of undisputed paternity; such paternity is demanded because these children are later to come into their father’s property as his natural heirs. It is distinguished from pairing marriage by the much greater strength of the marriage tie, which can no longer be dissolved at either partner’s wish. As a rule, it is now only the man who can dissolve it, and put away his wife. The right of conjugal infidelity also remains secured to him, at any rate by custom (the Code Napoleon explicitly accords it to the husband as long as he does not bring his concubine into the house), and as social life develops he exercises his right more and more; should the wife recall the old form of sexual life and attempt to revive it, she is punished more severely than ever.

We meet this new form of the family in all its severity among the Greeks. While the position of the goddesses in their mythology, as Marx points out, brings before us an earlier period when the position of women was freer and more respected, in the heroic age we find the woman already being humiliated by the domination of the man and by competition from girl slaves. Note how Telemachus in the Odyssey silences his mother. (The reference is to a passage where Telemachus, son of Odysseus and Penelope, tells his mother to get on with her weaving and leave the men to mind their own business—Ed.) In Homer young women are booty and are handed over to the pleasure of the conquerors, the handsomest being picked by the commanders in order of rank; the entire Iliad, it will be remembered, turns on the quarrel of Achilles and Agamemnon over one of these slaves. If a hero is of any importance, Homer also mentions the captive girl with whom he shares his tent and his bed. These girls were also taken back to Greece and brought under the same roof as the wife, as Cassandra was brought by Agamemnon in AEschylus; the sons begotten of them received a small share of the paternal inheritance and had the full status of freemen. Teucer, for instance, is a natural son of Telamon by one of these slaves and has the right to use his father’s name. The legitimate wife was expected to put up with all this, but herself to remain strictly chaste and faithful. In the heroic age a Greek woman is, indeed, more respected than in the period of civilization, but to her husband she...
is after all nothing but the mother of his legitimate children and heirs, his chief housekeeper and the supervisor of his female slaves, whom he can and does take as concubines if he so fancies. It is the existence of slavery side by side with monogamy, the presence of young, beautiful slaves belonging unreservedly to the man, that stamps monogamy from the very beginning with its specific character of monogamy for the woman only, but not for the man. And that is the character it still has today.

Coming to the later Greeks, we must distinguish between Dorians and Ionians. Among the former—Sparta is the classic example—marriage relations are in some ways still more archaic than even in Homer. The recognized form of marriage in Sparta was a pairing marriage, modified according to the Spartan conceptions of the state, in which there still survived vestiges of group marriage. Childless marriages were dissolved: King Anaxandridas (about 650 B.C.), whose first wife was childless, took a second and kept two households; about the same time, King Ariston, who had two unfruitful wives, took a third, but dismissed one of the other two. On the other hand, several brothers could have a wife in common; a friend who preferred his friend’s wife could share her with him; and it was considered quite proper to place one’s wife at the disposal of a sturdy ‘stallion,’ as Bismarck would say, even if he was not a citizen. A passage in Plutarch, where a Spartan woman refers an importunate wooer to her husband, seems to indicate, according to Schamann, even greater freedom. Real adultery, secret infidelity by the woman without the husband’s knowledge, was therefore unheard of. On the other hand, domestic slavery was unknown in Sparta, at least during its best period; the unfree helots were segregated on the estates and the Spartans were therefore less tempted to take the helots’ wives. Inevitably in these conditions women held a much more honored position in Sparta than anywhere else in Greece. The Spartan women and the elite of the Athenian hetairai are the only Greek women of whom the ancients speak with respect and whose words they thought it worth while to record.

The position is quite different among the Ionians; here Athens is typical. Girls only learned spinning, weaving, and sewing, and at most a little reading and writing. They lived more or less behind locked doors and had no company except other women. The women’s apartments formed a separate part of the house, on the upper floor or at the back, where men, especially strangers, could not easily enter, and to which the women retired when men visited the house. They never went out without being accompanied by a female slave; indoors they were kept under regular guard. Aristophanes speaks of Molossian dogs kept to frighten away adulterers, and, at any rate in the Asiatic towns, eunuchs were employed to keep watch over the women-making and exporting eunuchs was an industry in Chios as early as Herodotus’ time, and, according to Wachsmuth, it was not only the barbarians who bought the supply. In Euripides a woman is called an oikourema, a thing (the word is neuter) for looking after the house, and, apart from her business of bearing children, that was all she was for the Athenian—his chief female domestic servant. The man had his athletics and his public business, from which women were barred; in addition, he often had female slaves at his disposal and during the most flourishing days of Athens an extensive system of prostitution which the state at least favored. It was precisely through this system of prostitution that the only Greek women of personality were able to develop, and to acquire that intellectual and artistic culture by which they stand out as high above the general level of classical womanhood as the Spartan women by their qualities of character. But that a woman had to be a hetaira before she could be a woman is the worst condemnation of the Athenian family.

This Athenian family became in time the accepted model for domestic relations, not only among the Ionians, but to an increasing extent among all the Greeks of the mainland and colonies also. But, in spite of locks and guards, Greek women found plenty of opportunity for deceiving their husbands. The men, who would have been ashamed to show any love for their wives, amused themselves by all sorts of love affairs with hetairai; but this degradation of the women was avenged on the men and degraded them also, till they fell into the abominable practice of sodomy and degraded alike their gods and themselves with the myth of Ganymede.

This is the origin of monogamy as far as we can trace it back among the most civilized and highly developed people of antiquity. It was not in any way the fruit of individual sex-love, with which it had nothing whatever to do; marriages remained as before marriages of convenience. It was the first form of the family to be based, not on natural, but on economic conditions—on the victory of private property over primitive, natural communal property. The Greeks themselves put the matter quite frankly: the sole exclusive aims of monogamous marriage were to make the man supreme in the family, and to propagate, as the future heirs to his wealth, children indisputably his own. Otherwise, marriage was a burden, a duty which had to be performed, whether one liked it or not, to gods, state, and one’s ancestors. In Athens the law exacted from the man not only marriage but also the performance of a minimum of so-called conjugal duties.

Thus when monogamous marriage first makes its appearance in history, it is not as the reconciliation of man and woman, still less as the highest form of such a reconciliation. Quite the contrary. Monogamous marriage
comes on the scene as the subjugation of the one sex by the other; it announces a struggle between the sexes unknown throughout the whole previous prehistoric period. In an old unpublished manuscript, written by Marx and myself in 1846, (The reference here is to the German Ideology, published after Engels’ death—Ed.) I find the words: “The first division of labor is that between man and woman for the propagation of children.” And today I can add: The first class opposition that appears in history coincides with the development of the antagonism between man and woman in monogamous marriage, and the first class oppression coincides with that of the female sex by the male. Monogamous marriage was a great historical step forward; nevertheless, together with slavery and private wealth, it opens the period that has lasted until today in which every step forward is also relatively a step backward, in which prosperity and development for some is won through the misery and frustration of others. It is the cellular form of civilized society, in which the nature of the oppositions and contradictions fully active in that society can be already studied.

The old comparative freedom of sexual intercourse by no means disappeared with the victory of pairing marriage or even of monogamous marriage:

The old conjugal system, now reduced to narrower limits by the gradual disappearance of the punaluan groups, still enrobed the advancing family, which it was to follow to the verge of civilization . . . It finally disappeared in the new form of hetaerism, which still follows mankind in civilization as a dark shadow upon the family. (Morgan, op. cit., p. 511—Ed.)

By ‘hetaerism’ Morgan understands the practice, coexistent with monogamous marriage, of sexual intercourse between men and unmarried women outside marriage, which, as we know, flourishes in the most varied forms throughout the whole period of civilization and develops more and more into open prostitution. This hetaerism derives quite directly from group marriage, from the ceremonial surrender by which women purchased the right of chastity. Surrender for money was at first a religious act; it took place in the temple of the goddess of love, and the money originally went into the temple treasury. The temple slaves of Anaitis in Armenia and of Aphrodite in Corinth, like the sacred dancing-girls attached to the temples of India, the so-called bayaderes (the word is a corruption of the Portuguese word bailadeira, meaning female dancer), were the first prostitutes. Originally the duty of every woman, this surrender was later performed by these priestesses alone as representatives of all other women. Among other peoples, hetaerism derives from the sexual freedom allowed to girls before marriage—again, therefore, a relic of group marriage, but handed down in a different way. With the rise of the inequality of property—already at the upper stage of barbarism, therefore—wage-labor appears sporadically side by side with slave labor, and at the same time, as its necessary correlate, the professional prostitution of free women side by side with the forced surrender of the slave. Thus the heritage which group marriage has bequeathed to civilization is double-edged, just as everything civilization brings forth is double-edged, double-tongued, divided against itself, contradictory: here monogamy, there hetaerism, with its most extreme form, prostitution. For hetaerism is as much a social institution as any other; it continues the old sexual freedom—to the advantage of the men. Actually not merely tolerated, but gaily practiced, by the ruling classes particularly, it is condemned in words. But in reality this condemnation never falls on the men concerned, but only on the women; they are despised and outcast, in order that the unconditional supremacy of men over the female sex may be once more proclaimed as a fundamental law of society.

But a second contradiction thus develops within monogamous marriage itself. At the side of the husband who embellishes his existence with hetaerism stands the neglected wife. And one cannot have one side of this contradiction without the other, any more than a man has a whole apple in his hand after eating half. But that seems to have been the husbands’ notion, until their wives taught them better. With monogamous marriage, two constant social types, unknown hitherto, make their appearance on the scene—the wife’s attendant lover and the cuckold husband. The husbands had won the victory over the wives, but the vanquished magnanimously provided the crown. Together with monogamous marriage and hetaerism, adultery became an unavoidable social institution—denounced, severely penalized, but impossible to suppress. At best, the certain legitimacy of the children rested on moral conviction as before, and to solve the insoluble contradiction the Code Napoleon, Art-312, decreed: “L’enfant confu pendant le mariage a pour pere le mari,” the father of a child conceived during marriage is the husband. Such is the final result of three thousand years of monogamous marriage.

Thus, wherever the monogamous family remains true to its historical origin and clearly reveals the antagonism between the man and the woman expressed in the man’s exclusive supremacy, it exhibits in miniature the same oppositions and contradictions as those in which society has been moving, without power to resolve or overcome them, ever since it split into classes at the beginning of civilization. I am speaking here, of course, only of those cases of monogamous marriage where matrimonial life actually proceeds according to the original character of the whole institution, but where the wife rebels against the husband’s supremacy. Not all marriages turn out
Thus, as nobody knows better than the German philistine, who can no more assert his rule in the home than he can in the state, and whose wife, with every right, wears the trousers he is unworthy of. But, to make up for it, he considers himself far above his French companion in misfortune, to whom, oftener than to him, something much worse happens.

However, monogamous marriage did not by any means appear always and everywhere in the classically harsh form it took among the Greeks. Among the Romans, who, as future world-conquerors, had a larger, if a less fine, vision than the Greeks, women were freer and more respected. A Roman considered that his power of life and death over his wife sufficiently guaranteed her conjugal fidelity. Here, moreover, the wife equally with the husband could dissolve the marriage at will. But the greatest progress in the development of individual marriage certainly came with the entry of the Germans into history, and for the reason that the German—on account of their poverty, very probably—were still at a stage where monogamy seems not yet to have become perfectly distinct from pairing marriage. We infer this from three facts mentioned by Tacitus. First, though marriage was held in great reverence—"they content themselves with one wife, the women live hedged round with chastity"—polygamy was the rule for the distinguished members and the leaders of the tribe, a condition of things similar to that among the Americans, where pairing marriage was the rule. Secondly, the transition from mother-right to father-right could only have been made a short time previously, for the brother on the mother's side—the nearest gentile male relation according to mother-right—was still considered almost closer of kin than the father, corresponding again to the standpoint of the American Indians, among whom Marx, as he often said, found the key to the understanding of our own primitive age. And, thirdly, women were greatly respected among the Germans, and also influential in public affairs, which is in direct contradiction to the supremacy of men in monogamy. In almost all these points the Germans agree with the Spartans, among whom also, as we saw, pairing marriage had not yet been completely overcome. Thus, here again an entirely new influence came to power in the world with the Germans. The new monogamy, which now developed from the mingling of peoples amid the ruins of the Roman world, clothed the supremacy of the men in milder forms and gave women a position which, outwardly at any rate, was much more free and respected than it had ever been in classical antiquity. Only now were the conditions realized in which through monogamy—within it, parallel to it, or in opposition to it, as the case might be—the greatest moral advance we owe to it could be achieved: modern individual sex-love, which had hitherto been unknown to the entire world.

This advance, however, undoubtedly sprang from the fact that the Germans still lived in pairing families and grafted the corresponding position of women onto the monogamous system, so far as that was possible. It most decidedly did not spring from the legendary virtue and wonderful moral purity of the German character, which was nothing more than the freedom of the pairing family from the crying moral contradictions of monogamy. On the contrary, in the course of their migrations the Germans had morally much deteriorated, particularly during their southeasterly wanderings among the nomads of the Black Sea steppes, from whom they acquired, not only equestrian skill, but also gross, unnatural vices, as Ammianus expressly states of the Taifalians and Procopius of the Herulians.

But if monogamy was the only one of all the known forms of the family through which modern sex-love could develop, that does not mean that within monogamy modern sexual love developed exclusively or even chiefly as the love of husband and wife for each other. That was precluded by the very nature of strictly monogamous marriage under the rule of the man. Among all historically active classes—that is, among all ruling classes-matrimony remained what it had been since the pairing marriage, a matter of convenience which was arranged by the parents. The first historical form of sexual love as passion, a passion recognized as natural to all human beings (at least if they belonged to the ruling classes), and as the highest form of the sexual impulse—and that is what constitutes its specific character—this first form of individual sexual love, the chivalrous love of the middle ages, was by no means conjugal. Quite the contrary. In its classic form among the Provençals, it heads straight for adultery, and the poets of love celebrated adultery. The flower of Provençal love poetry are the Albas (aubades, songs of dawn). They describe in glowing colors how the knight lies in bed beside his love—"the wife of another man—while outside stands the watchman who calls to him as soon as the first gray of dawn (alba) appears, so that he can get away unobserved; the parting scene then forms the climax of the poem. The northern French and also the worthy Germans adopted this kind of poetry together with the corresponding fashion of chivalrous love; old Wolftram of Eschenbach has left us three wonderfully beautiful songs of dawn on this same improper subject, which I like better than his three long heroic poems.

Nowadays there are two ways of concluding a bourgeois marriage. In Catholic countries the parents, as before, procure a suitable wife for their young bourgeois son, and the consequence is, of course, the fullest de-
development of the contradiction inherent in monogamy: the husband abandons himself to hetaerism and the wife to adultery. Probably the only reason why the Catholic Church abolished divorce was because it had convinced itself that there is no more a cure for adultery than there is for death. In Protestant countries, on the other hand, the rule is that the son of a bourgeois family is allowed to choose a wife from his own class with more or less freedom; hence there may be a certain element of love in the marriage, as, indeed, in accordance with Protestant hypocrisy, is always assumed, for decency’s sake. Here the husband’s hetaerism is a more sleepy kind of business, and adultery by the wife is less the rule. But since, in every kind of marriage, people remain what they were before, and since the bourgeois of Protestant countries are mostly philistines, all that this Protestant monogamy achieves, taking the average of the best cases, is a Conjugal partnership of leaden boredom, known as “domestic bliss.” The best mirror of these two methods of marrying is the novel—the French novel for the Catholic manner, the German for the Protestant. In both, the hero “gets” them: in the German, the young man gets the girl; in the French, the husband gets the horns. Which of them is worst off is sometimes questionable. This is why the French bourgeois is as much horrified by the dullness of the German novel as the German philistine is by the “immorality” of the French. However, now that “Berlin is a world capital,” the German novel is beginning with a little less timidity to use as part of its regular stock-in-trade the hetaerism and adultery long familiar to that town.

In both cases, however, the marriage is conditioned by the class position of the parties and is to that extent always a marriage of convenience. In both cases this marriage of convenience turns often enough into crassest prostitution—sometimes of both partners, but far more commonly of the woman, who only differs from the ordinary courtesan in that she does not let out her body on piece-work as a wage-worker, but sells it once and for all into slavery. And of all marriages of convenience Fourier’s words hold true: “As in grammar two negatives make an affirmative, so in matrimonial morality two prostitutions pass for a virtue.” (Charles Fourier, Théorie de l’Unité Universelle. Paris, 1841–45, Vol. III, p. 120.—Ed.) Sex-love in the relationship with a woman becomes, and can only become, the real rule among the oppressed classes, which means today among the proletariat—whether this relation is officially sanctioned or not. But here all the foundations of typical monogamy are cleared away. Here there is no property, for the preservation and inheritance of which monogamy and male supremacy were established; hence there is no incentive to make this male supremacy effective. What is more, there are no means of making it so. Bourgeois law, which protects this supremacy, exists only for the possessing class and their dealings with the proletarians. The law costs money and, on account of the worker’s poverty, it has no validity for his relation to his wife. Here quite other personal and social conditions decide. And now that large-scale industry has taken the wife out of the home onto the labor market and into the factory, and made her often the bread-winner of the family, no basis for any kind of male supremacy is left in the proletarian household—except, perhaps, for something of the brutality towards women that has spread since the introduction of monogamy. The proletarian family is therefore no longer monogamous in the strict sense, even where there is passionate love and firmest loyalty on both sides, and maybe all the blessings of religious and civil authority. Here, therefore, the eternal attendants of monogamy, hetaerism and adultery, play only an almost vanishing part. The wife has in fact regained the right to dissolve the marriage, and if two people cannot get on with one another, they prefer to separate. In short, proletarian marriage is monogamous in the etymological sense of the word, but not at all in its historical sense.

Our jurists, of course, find that progress in legislation is leaving women with no further ground of complaint. Modern civilized systems of law increasingly acknowledge, first, that for a marriage to be legal, it must be a contract freely entered into by both partners, and, secondly, that also in the married state both partners must stand on a common footing of equal rights and duties. If both these demands are consistently carried out, say the jurists, women have all they can ask.

This typically legalist method of argument is exactly the same as that which the radical republican bourgeois uses to put the proletarian in his place. The labor contract is to be freely entered into by both partners. But it is considered to have been freely entered into as soon as the law makes both parties equal on paper. The power conferred on the one party by the difference of class position, the pressure thereby brought to bear on the other party—the real economic position of both—that is not the law’s business. Again, for the duration of the labor contract both parties are to have equal rights, in so far as one or the other does not expressly surrender them. That economic relations compel the worker to surrender even the last semblance of equal rights—here again, that is no concern of the law.

In regard to marriage, the law, even the most advanced, is fully satisfied as soon as the partners have formally recorded that they are entering into the marriage of their own free consent. What goes on in real life behind the juridical scenes, how this free consent comes about—that is not the business of the law and the jurist. And yet the most elementary comparative jurisprudence should show...
the jurist what this free consent really amounts to. In the countries where an obligatory share of the paternal inheritance is secured to the children by law and they cannot therefore be disinherited—in Germany, in the countries with French law and elsewhere—the children are obliged to obtain their parents’ consent to their marriage. In the countries with English law, where parental consent to a marriage is not legally required, the parents on their side have full freedom in the testamentary disposal of their property and can disinherit their children at their pleasure. It is obvious that, in spite and precisely because of this fact, freedom of marriage among the classes with something to inherit is in reality not a whit greater in England and America than it is in France and Germany.

As regards the legal equality of husband and wife in marriage, the position is no better. The legal inequality of the two partners, bequeathed to us from earlier social conditions, is not the cause but the effect of the economic oppression of the woman. In the old communistic household, which comprised many couples and their children, the task entrusted to the women of managing the household was as much a public and socially necessary industry as the procuring of food by the men. With the patriarchal family, and still more with the single monogamous family, a change came. Household management lost its public character. It no longer concerned society. It became a private service; the wife became the head servant, excluded from all participation in social production. Not until the coming of modern large-scale industry was the road to social production opened to her again—and then only to the proletarian wife. But it was opened in such a manner that, if she carries out her duties in the private service of her family, she remains excluded from public production and unable to earn; and if she wants to take part in public production and earn independently, she cannot carry out family duties. And the wife’s position in the factory is the position of women in all branches of business, right up to medicine and the law. The modern individual family is founded on the open or concealed domestic slavery of the wife, and modern society is a mass composed of these individual families as its molecules.

In the great majority of cases today, at least in the possessing classes, the husband is obliged to earn a living and support his family, and that in itself gives him a position of supremacy, without any need for special legal titles and privileges. Within the family he is the bourgeois and the wife represents the proletariat. In the industrial world, the specific character of the economic oppression burdening the proletariat is visible in all its sharpness only when all special legal privileges of the capitalist class have been abolished and complete legal equality of both classes established. The democratic republic does not do away with the opposition of the two classes; on the contrary, it provides the clear field on which the fight can be fought out. And in the same way, the peculiar character of the supremacy of the husband over the wife in the modern family, the necessity of creating real social equality between them, and the way to do it, will only be seen in the clear light of day when both possess legally complete equality of rights. Then it will be plain that the first condition for the liberation of the wife is to bring the whole female sex back into public industry, and that this in turn demands the abolition of the monogamous family as the economic unit of society.

We thus have three principal forms of marriage which correspond broadly to the three principal stages of human development. For the period of savagery, group marriage; for barbarism, pairing marriage; for civilization, monogamy, supplemented by adultery and prostitution. Between pairing marriage and monogamy intervenes a period in the upper stage of barbarism when men have female slaves at their command and polygamy is practiced.

As our whole presentation has shown, the progress which manifests itself in these successive forms is connected with the peculiarity that women, but not men, are increasingly deprived of the sexual freedom of group marriage. In fact, for men group marriage actually still exists even to this day. What for the woman is a crime, entailing grave legal and social consequences, is considered honorable in a man or, at the worse, a slight moral blemish which he cheerfully bears. But the more the hetererism of the past is changed in our time by capitalist commodity production and brought into conformity with it, the more, that is to say, it is transformed into undisguised prostitution, the more demoralizing are its effects. And it demoralizes men far more than women. Among women, prostitution degrades only the unfortunate ones who become its victims, and even these by no means to the extent commonly believed. But it degrades the character of the whole male world. A long engagement, particularly, is in nine cases out of ten a regular preparatory school for conjugal infidelity.

We are now approaching a social revolution in which the economic foundations of monogamy as they have existed hitherto will disappear just as surely as those of its complement-prostitution. Monogamy arose from the concentration of considerable wealth in the hands of a single individuals man—and from the need to bequeath this wealth to the children of that man and of no other. For this purpose, the monogamy of the woman was required, not that of the man, so this monogamy of the woman did not in any way interfere with open or concealed polygamy on the part of the man. But by transforming by far the greater portion, at any rate, of perma-
not, heritable wealth—the means of production—into social property, the coming social revolution will reduce to a minimum all this anxiety about bequeathing and inheriting. Having arisen from economic causes, will monogamy then disappear when these causes disappear?

One might answer, not without reason: far from disappearing, it will, on the contrary, be realized completely. For with the transformation of the means of production into social property there will disappear also wage-labor, the proletariat, and therefore the necessity for a certain—statistically calculable—number of women to surrender themselves for money. Prostitution disappears; monogamy, instead of collapsing, at last becomes a reality—also for men.

In any case, therefore, the position of men will be very much altered. But the position of women, of all women, also undergoes significant change. With the transfer of the means of production into common ownership, the single family ceases to be the economic unit of society. Private housekeeping is transformed into a social industry. The care and education of the children becomes a public affair; society looks after all children alike, whether they are legitimate or not. This removes all the anxiety about the “consequences,” which today is the most essential social—moral as well as economic—factor that prevents a girl from giving herself completely to the man she loves. Will not that suffice to bring about the gradual growth of unconstrained sexual intercourse and with it a more tolerant public opinion in regard to a maiden’s honor and a woman’s shame? And, finally, have we not seen that in the modern world monogamy and prostitution are indeed contradictions, but inseparable contradictions, poles of the same state of society? Can prostitution disappear without dragging monogamy with it into the abyss?

Here a new element comes into play, an element which, at the time when monogamy was developing, existed at most in germ: individual sex-love.

Before the Middle Ages we cannot speak of individual sex-love. That personal beauty, close intimacy, similarity of tastes and so forth awakened in people of opposite sex the desire for sexual intercourse, that men and women were not totally indifferent regarding the partner with whom they entered into this most intimate relationship—that goes without saying. But it is still a very long way to our sexual love. Throughout the whole of antiquity, marriages were arranged by the parents, and the partners calmly accepted their choice. What little love there was between husband and wife in antiquity is not so much subjective inclination as objective duty, not the cause of the marriage, but its corollary. Love relationships in the modern sense only occur in antiquity outside official society. The shepherds of whose joys and sorrows in love

Theocratus and Moschus sing, the Daphnis and Chloe of Longus are all slaves who have no part in the state, the free citizen’s sphere of life. Except among slaves, we find love affairs only as products of the disintegration of the old world and carried on with women who also stand outside official society, with hetairai—that is, with foreigners or freed slaves: in Athens from the eve of its decline, in Rome under the Caesars. If there were any real love affairs between free men and free women, these occurred only in the course of adultery. And to the classical love poet of antiquity, old Anacreon, sexual love in our sense mattered so little that it did not even matter to him which sex his beloved was.

Our sexual love differs essentially from the simple sexual desire, the Eros, of the ancients. In the first place, it assumes that the person loved returns the love; to this extent the woman is on an equal footing with the man, whereas in the Eros of antiquity she was often not even asked. Secondly, our sexual love has a degree of intensity and duration which makes both lovers feel that non-possession and separation are a great, if not the greatest, calamity; to possess one another, they risk high stakes, even life itself. In the ancient world this happened only, if at all, in adultery. And, finally, there arises a new moral standard in the judgment of a sexual relationship. We do not only ask, was it within or outside marriage? But also, did it spring from love and reciprocated love or not? Of course, this new standard has fared no better in feudal or bourgeois practice than all the other standards of morality—it is ignored. But neither does it fare any worse. It is recognized just as much as they are—in theory, on paper. And for the present it cannot ask anything more.

At the point where antiquity broke off its advance to sexual love, the Middle Ages took it up again: in adultery. We have already described the knightly love which gave rise to the songs of dawn. From the love which strives to break up marriage to the love which is to be its foundation there is still a long road, which chivalry never fully traversed. Even when we pass from the frivolous Latins to the virtuous Germans, we find in the Nibelungenlied that, although in her heart Kriemhild is as much in love with Siegfried as she is with her, yet when Gunther announces that he has promised her to a knight he does not name, she simply replies: “You have no need to ask me; as you bid me, so will I ever be; whom you, lord, give me as husband, him will I gladly take in troth.” It never enters her head that her love can be even considered. Gunther asks for Brunhild in marriage, and Etzel for Kriemhild, though they have never seen them. Similarly, in Gutrun, Sigevant of Ireland asks for the Norwegian Ute, whom he has never seen, Hetal of Hegelingen for Hilde of Ireland, and, finally, Siegfried of Moorland,
Hartmut of Ormany and Herwig of Seeland for Gutrun, and here Gutrun’s acceptance of Herwig is for the first time voluntary. As a rule, the young prince’s bride is selected by his parents, if they are still living, or, if not, by the prince himself, with the advice of the great feudal lords, who have a weighty word to say in all these cases. Nor can it be otherwise. For the knight or baron, as for the prince of the land himself, marriage is a political act, an opportunity to increase power by new alliances; the interest of the house must be decisive, not the wishes of an individual. What chance then is there for love to have the final word in the making of a marriage?

The same thing holds for the guild member in the medieval towns. The very privileges protecting him, the guild charters with all their clauses and rubrics, the intricate distinctions legally separating him from other guilds, from the members of his own guild or from his journeymen and apprentices, already made the circle narrow enough within which he could look for a suitable wife. And who in the circle was the most suitable was decided under this complicated system most certainly not by his individual preference but by the family interests.

In the vast majority of cases, therefore, marriage remained, up to the close of the middle ages, what it had been from the start—a matter which was not decided by the partners. In the beginning, people were already born married ‘married to an entire group of the opposite sex. In the later forms of group marriage similar relations probably existed, but with the group continually contracting. In the pairing marriage it was customary for the mothers to settle the marriages of their children; here, too, the decisive considerations are the new ties of kinship, which are to give the young pair a stronger position in the gens and tribe. And when, with the preponderance of private over communal property and the interest in its bequeathal, father-right and monogamy gained supremacy, the dependence of marriages on economic considerations became complete. The form of marriage by purchase disappears, the actual practice is steadily extended until not only the woman but also the man acquires a price—not according to his personal qualities, but according to his property. That the mutual affection of the people concerned should be the one paramount reason for marriage, outweighing everything else, was and always had been absolutely unheard of in the practice of the ruling classes; that sort of thing only happened in romance—or among the oppressed classes, who did not count.

Such was the state of things encountered by capitalist production when it began to prepare itself, after the epoch of geographical discoveries, to win world power by world trade and manufacture. One would suppose that this manner of marriage exactly suited it, and so it did. And yet—there are no limits to the irony of history—capitalist production itself was to make the decisive breach in it. By changing all things into commodities, it dissolved all inherited and traditional relationships, and, in place of time-honored custom and historic right, it set up purchase and sale, “free” contract. And the English jurist, H. S. Maine, thought he had made a tremendous discovery when he said that our whole progress in comparison with former epochs consisted in the fact that we had passed ‘from status to contract,” from inherited to freely contracted conditions—which, in so far as it is correct, was already in The Communist Manifesto (Chapter II).

But a contract requires people who can dispose freely of their persons, actions, and possessions, and meet each other on the footing of equal rights. To create these ‘free’ and ‘equal’ people was one of the main tasks of capitalist production. Even though at the start it was carried out only half-consciously, and under a religious disguise at that, from the time of the Lutheran and Calvinist Reform the principle was established that man is only fully responsible for his actions when he acts with complete freedom of will, and that it is a moral duty to resist all coercion to an immoral act. But how did this fit in with the hitherto existing practice in the arrangement of marriages? Marriage, according to the bourgeois conception, was a contract, a legal transaction, and the most important one of all, because it disposed of two human beings, body and mind, for life. Formally, it is true, the contract at that time was entered into voluntarily: without the assent of the persons concerned, nothing could be done. But everyone knew only too well how this assent was obtained and who were the real contracting parties in the marriage. But if real freedom of decision was required for all other contracts, then why not for this? Had not the two young people to be coupled also the right to dispose freely of themselves, of their bodies and organs? Had not chivalry brought sex-love into fashion, and was not its proper bourgeois form, in contrast to chivalry’s adulterous love, the love of husband and wife? And if it was the duty of married people to love each other, was it not equally the duty of lovers to marry each other and nobody else? Did not this right of the lovers stand higher than the right of parents, relations, and other traditional marriage-brokers and matchmakers? If the right of free, personal discrimination broke boldly into the Church and religion, how should it halt before the intolerable claim of the older generation to dispose of the body, soul, property, happiness, and unhappiness of the younger generation?

These questions inevitably arose at a time which was loosening all the old ties of society and undermining all traditional conceptions. The world had suddenly grown
almost ten times bigger; instead of one quadrant of a hemisphere, the whole globe lay before the gaze of the West Europeans, who hastened to take the other seven quadrants into their possession. And with the old narrow barriers of their homeland fell also the thousand-year-old barriers of the prescribed medieval way of thought. To the outward and the inward eye of man opened an infinitely wider horizon. What did a young man care about the approval of respectability, or honorable guild privileges handed down for generations, when the wealth of India beckoned to him, the gold and the silver mines of Mexico and Potosi? For the bourgeoisie, it was the time of knight-errantry; they, too, had their romance and their raptures of love, but on a bourgeois footing and, in the last analysis, with bourgeois aims.

So it came about that the rising bourgeoisie, especially in Protestant countries, where existing conditions had been most severely shaken, increasingly recognized freedom of contract also in marriage, and carried it into effect in the manner described. Marriage remained class marriage, but within the class the partners were conceded a certain degree of freedom of choice. And on paper, in ethical theory and in poetic description, nothing was more immutably established than that every marriage is immoral which does not rest on mutual sexual love and really free agreement of husband and wife. In short, the love marriage was proclaimed as a human right, and indeed not only as a droit de l’homme, one of the rights of man, but also, for once in a way, as droit de la femme, one of the rights of woman.

This human right, however, differed in one respect from all other so-called human rights. While the latter, in practice, remain restricted to the ruling class (the bourgeoisie), and are directly or indirectly curtailed for the oppressed class (the proletariat), in the case of the former the irony of history plays another of its tricks. The ruling class remains dominated by the familiar economic influences and therefore only in exceptional cases does it provide instances of really freely contracted marriages, while among the oppressed class, as we have seen, these marriages are the rule.

Full freedom of marriage can therefore only be generally established when the abolition of capitalist production and of the property relations created by it has removed all the accompanying economic considerations which still exert such a powerful influence on the choice of a marriage partner. For then there is no other motive left except mutual inclination.

And as sexual love is by its nature exclusive—although at present this exclusiveness is fully realized only in the woman—the marriage based on sexual love is by its nature individual marriage. We have seen how right Bachofen was in regarding the advance from group marriage to individual marriage as primarily due to the women. Only the step from pairing marriage to monogamy can be put down to the credit of the men, and historically the essence of this was to make the position of the women worse and the infidelities of the men easier. If now the economic considerations also disappear which made women put up with the habitual infidelity of their husbands—concern for their own means of existence and still more for their children’s future—then, according to all previous experience, the equality of woman thereby achieved will tend infinitely more to make men really monogamous than to make women polyandrous.

But what will quite certainly disappear from monogamy are all the features stamped upon it through its origin in property relations; these are, in the first place, supremacy of the man, and, secondly, indissolubility. The supremacy of the man in marriage is the simple consequence of his economic supremacy, and with the abolition of the latter will disappear of itself. The indissolubility of marriage is partly a consequence of the economic situation in which monogamy arose, partly tradition from the period when the connection between this economic situation and monogamy was not yet fully understood and was carried to extremes under a religious form. Today it is already broken through at a thousand points. If only the marriage based on love is moral, then also only the marriage in which love continues. But the intense emotion of individual sex-love varies very much in duration from one individual to another, especially among men, and if affection definitely comes to an end or is supplanted by a new passionate love, separation is a benefit for both partners as well as for society—only people will then be spared having to wade through the useless mire of a divorce case.

What we can now conjecture about the way in which sexual relations will be ordered after the impending overthrow of capitalist production is mainly of a negative character, limited for the most part to what will disappear. But what will there be new? That will be answered when a new generation has grown up: a generation of men who never in their lives have known what it is to buy a woman’s surrender with money or any other social instrument of power; a generation of women who have never known what it is to give themselves to a man from any other considerations than real love, or to refuse to give themselves to their lover from fear of the economic consequences. When these people are in the world, they will care precious little what anybody today thinks they ought to do; they will make their own practice and their corresponding public opinion about the practice of each individual—and that will be the end of it.

Let us, however, return to Morgan, from whom we have moved a considerable distance. The historical in-
vestigation of the social institutions developed during the period of civilization goes beyond the limits of his book. How monogamy fares during this epoch, therefore, only occupies him very briefly. He, too, sees in the further development of the monogamous family a step forward, an approach to complete equality of the sexes, though he does not regard this goal as attained. But, he says:

When the fact is accepted that the family has passed through four successive forms, and is now in a fifth, the question at once arises whether this form can be permanent in the future. The only answer that can be given is that it must advance as society advances, and change as society changes, even as it has done in the past. It is the creature of the social system, and will reflect its culture. As the monogamian family has improved greatly since the commencement of civilization, and very sensibly in modern times, it is at least supposable that it is capable of still further improvement until the equality of the sexes is attained. Should the monogamian family in the distant future fail to answer the requirements of society . . . it is impossible to predict the nature of its successor.

3. The Iroquois Gens

We now come to another discovery made by Morgan, which is at least as important as the reconstruction of the family in its primitive form from the systems of consanguinity. The proof that the kinship organizations designated by animal names in a tribe of American Indians are essentially identical with the genea of the Greeks and the gentes of the Romans; that the American is the original form and the Greek and Roman forms are later and derivative; that the whole social organization of the primitive Greeks and Romans into gens, phratry, and tribe finds its faithful parallel in that of the American Indians; that the gens is an institution common to all barbarians until their entry into civilization and even afterwards (so far as our sources go up to the present)—this proof has cleared up at one stroke the most difficult questions in the most ancient periods of Greek and Roman history, providing us at the same time with an unsuspected wealth of information about the fundamental features of social constitution in primitive times—before the introduction of the state. Simple as the matter seems once it is understood, Morgan only made his discovery quite recently. In his previous work, published in 1871, he had not yet penetrated this secret, at whose subsequent revelation the English anthropologists, usually so self-confident, became for a time as quiet as mice.

The Latin word gens, which Morgan uses as a general term for such kinship organizations, comes, like its Greek equivalent, genos, from the common Aryan root gan (in German, where, following the law of Grimm’s law of the shifting of consonants in the Indo-European languages, Old Norse and Anglo-Saxon kyn, English kin, Middle High German kunne, all signify lineage, descent. Genes in Latin and genos in Greek are, however, used specifically to denote the form of kinship organization which prides itself on its common descent (in this case from a common ancestral father) and is bound together by social and religious institutions into a distinct community, though to all our historians its origin and character have hitherto remained obscure.

We have already seen, in connection with the punaluan family (P. 33), what is the composition of a gens in its original form. It consists of all the persons who in punaluan marriage, according to the conceptions necessarily prevailing under it, form the recognized descendants of one particular ancestral mother, the founder of the gens. In this form of family, as paternity is uncertain, only the female line counts. Since brothers may not marry their sisters but only women of different descent, the children begotten by them with these alien women cannot, according to mother-right, belong to the father’s gens. Therefore only the offspring of the daughters in each generation remain within the kinship organization; the offspring of the sons go into the gentes of their mothers. What becomes of this consanguine group when it has constituted itself a separate group, distinct from similar groups within the tribe?

As the classic form of this original gens, Morgan takes the gens among the Iroquois, and especially in the Seneca tribe. In this tribe there are eight gentes, named after animals: (1) Wolf, (2) Bear, (3) Turtle, (4) Beaver, (5) Deer, (6) Snipe, (7) Heron, (8) Hawk. In every gens the following customs are observed:

1. The gens elects its sachem (head of the gens in peace) and its chief (leader in war). The sachem had to be chosen from among the members of the gens, and his office was hereditary within the gens, in the sense that it had to be filled immediately as often as a vacancy occurred; the military leader could be chosen from outside the gens, and for a time the office might even be vacant. A son was never chosen to succeed his father as sachem, since mother-right prevailed among the Iroquois and the son consequently belonged to a different gens; but the office might and often did pass to a brother of the previous sachem or to his sister’s son. All voted in the elections, both men and women. The election, however, still required the confirmation of the seven remaining gentes, and only then was the new sachem ceremonially invested with his of-

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15 Systems of Consanguinity and Affinity of the Human Family, Smithsonian Publications, 1871.—Ed.
16 Engels refers here to Grimm’s law of the shifting of consonants in the Indo-European languages.—Ed.

ENGELS: ORIGINS OF THE FAMILY...
fice by the common council of the whole Iroquois confederacy. The significance of this will appear later. The authority of the sachem within the gens was paternal, and purely moral in character; he had no means of coercion. By virtue of his office he was also a member of the tribal council of the Senecas and also of the federal council of all the Iroquois. The war-chief could only give orders on military expeditions.

2. The gens deposes the sachem and war-chief at will. This also is done by men and women jointly. After a sachem or chief had been deposed, they became simple braves, private persons, like the other members. The tribal council also had the power to depose sachems, even against the will of the gens.

3. No member is permitted to marry within the gens. This is the fundamental law of the gens, the bond which holds it together. It is the negative expression of the very positive blood relationship, by virtue of which the individuals it comprises become a gens. By his discovery of this simple fact Morgan has revealed for the first time the nature of the gens. How little the gens was understood before is obvious from the earlier reports about savages and barbarians, in which the various bodies out of which the gentile organization is composed are ignorantly and indiscriminately referred to as tribe, clan, thum, and so forth, and then sometimes designated as bodies within which marriage is prohibited. Thus was created the hopeless confusion which gave Mr. McLennan his chance to appear as Napoleon, establishing order by his decree: All tribes are divided into those within which marriage is prohibited (exogamous) and those within which it is permitted (endogamous). Having now made the muddle complete, he could give himself up to the profoundest inquiries as to which of his two absurd classes was the older exogamy or endogamy. All this nonsense promptly stopped of itself with the discovery of the gens and of its basis in consanguinity, involving the exclusion of its members from intermarriage with one another. It goes without saying that at the stage at which we find the Iroquois the prohibition of marriage within the gens was stringently observed.

4. The property of deceased persons passed to the other members of the gens; it had to remain in the gens. As an Iroquois had only things of little value to leave, the inheritance was shared by his nearest gentle relations; in the case of a man, by his own brothers and sisters and maternal uncle; in the case of a woman, by her children and own sisters, but not by her brothers. For this reason man and wife could not inherit from one another, nor children from their father.

5. The members of the gens owed each other help, protection, and especially assistance in avenging injury by strangers. The individual looked for his security to the protection of the gens, and could rely upon receiving it; to wrong him was to wrong his whole gens. From the bonds of blood uniting the gens sprang the obligation of blood revenge, which the Iroquois unconditionally recognized. If any person from outside the gens killed a gentile member, the obligation of blood revenge rested on the entire gens of the slain man. First, mediation was tried; the gens of the slayer sat in council, and made proposals of settlement to the council of the gens of the slain, usually offering expressions of regret and presents of considerable value. If these were accepted, the matter was disposed of. In the contrary case, the wronged gens appointed one or more avengers, whose duty it was to pursue and kill the slayer. If this was accomplished, the gens of the slayer had no ground of complaint; accounts were even and closed.

6. The gens has special names or classes of names, which may not be used by any other gens in the whole tribe, so that the name of the individual indicates the gens to which he belongs. A gentile name confers of itself gentile rights.

7. The gens can adopt strangers and thereby admit them into the whole tribe. Thus among the Senecas the prisoners of war who were not killed became through adoption into a gens members of the tribe, receiving full gentile and tribal rights. The adoption took place on the proposal of individual members of the gens; if a man adopted, he accepted the stranger as brother or sister; if a woman, as son or daughter. The adoption had to be confirmed by ceremonial acceptance into the tribe. Frequently a gens which was exceptionally reduced in numbers was replenished by mass adoption from another gens, with its consent. Among the Iroquois the ceremony of adoption into the gens was performed at a public council of the tribe, and therefore was actually a religious rite.

8. Special religious ceremonies can hardly be found among the Indian gentes; the religious rites of the Indians are, however, more or less connected with the gens. At the six yearly religious festivals of the Iroquois the sachems and war-chiefs of the different gentes were included ex officio among the
“Keepers of the Faith” and had priestly functions.

9. The gens has a common burial place. Among the Iroquois of New York State, who are hedged in on all sides by white people, this has disappeared, but it existed formerly. It exists still among other Indians—for example, among the Tuscaroras, who are closely related to the Iroquois; although they are Christians, each gens has a separate row in the cemetery; the mother is therefore buried in the same row as her children, but not the father. And among the Iroquois also the whole gens of the deceased attends the burial, prepares the grave, the funeral addresses, etc.

10. The gens has a council: the democratic assembly of all male and female adult gentiles, all with equal votes. This council elected sachems, war-chiefs and also the other “Keepers of the Faith,” and deposed them; it took decisions regarding blood revenge or payment of atonement for murdered gentiles; it adopted strangers into the gens. In short, it was the sovereign power in the gens. Such were the rights and privileges of a typical Indian gens.

All the members of an Iroquois gens were personally free, and they were bound to defend each other’s freedom; they were equal in privileges and in personal rights, the sachem and chiefs claiming no superiority; and they were a brotherhood bound together by the ties of kin. Liberty, equality, and fraternity, though never formulated, were cardinal principles of the gens. These facts are material, because the gens was the unit of a social and governmental system, the foundation upon which Indian society was organized. It serves to explain that sense of independence and personal dignity universally an attribute of Indian character.\(^{17}\)

The Indians of the whole of North America at the time of its discovery were organized in gentes under mother-right. The gentes had disappeared only in some tribes, as among the Dakotas; in others, as among the Ojibwas and the Omahas, they were organized according to father-right.

Among very many Indian tribes with more than five or six gentes, we find every three, four, or more gentes united in a special group, which Morgan, rendering the Indian name faithfully by its Greek equivalent, calls a “phratry” (brotherhood). Thus the Senecas have two phratries: the first comprises gentes 1 to 4, the second gentes 5 to 8. Closer investigation shows that these phratries generally represent the original gentes into which the tribe first split up; for since marriage was prohibited within the gens, there had to be at least two gentes in any tribe to enable it to exist independently.

In the measure in which the tribe increased, each gens divided again into two or more gentes, each of which now appears as a separate gens, while the original gentes, which includes all the daughter gentes, continues as the phratry. Among the Senecas and most other Indians, the gentes within one phratry are brother gentes to one another, while those in the other phratry are their cousin gentes—terms which in the American system of consanguinity have, as we have seen, a very real and expressive meaning. Originally no Seneca was allowed to marry within his phratry, but this restriction has long since become obsolete and is now confined to the gens. According to Senecan tradition, the Bear and the Deer were the two original gentes, from which the others branched off. After this new institution had once taken firm root, it was modified as required; if the gentes in one phratry died out, entire gentes were sometimes transferred into it from other phratries to make the numbers even. Hence we find gentes of the same name grouped in different phratries in different tribes.

Among the Iroquois, the functions of the phratry are partly social, partly religious.

1. In the ball game one phratry plays against another. Each phratry puts forward its best players, while the other members, grouped according to phratries, look on and bet against one another on the victory of their players.

2. In the tribal council the sachems and the war-chiefs of each phratry sit together, the two groups facing one another; each speaker addresses the representatives of each phratry as a separate body.

3. If a murder had been committed in the tribe, and the slayer and the slain belonged to different phratries, the injured gens often appealed to its brother gentes; these held a council of the phratry and appealed in a body to the other phratry that it also should assemble its council to effect a settlement. Here the phratry reappears as the original gens, and with greater prospect of success than the weaker single gens, its offspring.

4. At the death of prominent persons the opposite phratry saw to the interment and the burial ceremonies, while the phratry of the dead person attended as mourners. If a sachem died, the opposite phratry reported to the federal council of the Iroquois that the office was vacant.

5. The council of the phratry also played a part in the election of a sachem. That the election would be

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\(^{17}\)Morgan, Ancient Society, pp. 85–86.-Ed.
confirmed by the brother gentes was more or less taken for granted, but the gentes of the opposite phratry might raise an objection. In this case the council of the opposite phratry was assembled; if it maintained the objection, the election was void.

(6) The Iroquois formerly had special religious mysteries, called medicine lodges by the white men. Among the Senecas, these mysteries were celebrated by two religious brotherhoods, into which new members were admitted by formal initiation; there was one such brotherhood in each of the two phratries.

(7) If, as is almost certain, the four lineages occupying the four quarters of Tlascala at the time of the conquest were four phratries, we here have proof that the phratries were also military units, like the phratries among the Greeks and similar kinship organizations among the Germans; these four lineages went into battle as separate groups, each with its own uniform and flag, and under its own leader.

As several gentes make up a phratry, so in the classic form several phratries make up a tribe; in some cases, when tribes have been much weakened, the intermediate form, the phratry, is absent. What distinguishes an Indian tribe in America?

1. Its own territory and name. In addition to its actual place of settlement, every tribe further possessed considerable territory for hunting and lashing. Beyond that lay a broad strip of neutral land reaching to the territory of the neighboring tribe; it was smaller between tribes related in language, larger between tribes not so related. It is the same as the boundary forest of the Germans, the waste made by Caesar’s Suevi around their territory, the isarnholt (in Danish, jarnved, limes Danicus) between Danes and Germans, the Sachsenwald (Saxon wood) and branibor (Slav, “protecting wood”) between Germans and Slavs, from which Brandenburg takes its name. The territory delimited by these uncertain boundaries was the common land of the tribe, recognized as such by neighboring tribes and defended by the tribe itself against attacks. In most cases the uncertainty of the boundaries only became a practical disadvantage when there had been a great increase in population. The names of the tribes seem generally to have arisen by chance rather than to have been deliberately chosen; in the course of time it often happened that a tribe was called by another name among the neighboring tribes than that which it used itself, just as the Germans were first called Germans by the Celts.

2. A distinct dialect peculiar to the tribe alone. Tribe and dialect are substantially coextensive; the formation through segmentation of new tribes and dialects was still proceeding in America until quite recently, and most probably has not entirely stopped even today. When two weakened tribes have merged into one, the exceptional case occurs of two closely related dialects being spoken in the same tribe. The average strength of American tribes is under 2,000 members; the Cherokees, however, number about 26,000, the greatest number of Indians in the United States speaking the same dialect.

3. The right to install into office the Sachems and war-chiefs elected by the Gentes and the right to depose them, even against the will of their gens. As these sachems and war-chiefs are members of the council of the tribe, these rights of the tribe in regard to them explain themselves. Where a confederacy of tribes had been formed, with all the tribes represented in a federal council, these rights were transferred to the latter.

4. The possession of common religious conceptions (Mythology) and ceremonies. “After the fashion of barbarians the American Indians were a religious people.”18 Their mythology has not yet been studied at all critically. They already embodied their religious ideas—spirits of every kind—in human form; but the lower stage of barbarism, which they had reached, still knows no plastic representations, so-called idols. Their religion is a cult of nature and of elemental forces, in process of development to polytheism. The various tribes had their regular festivals, with definite rites, especially dances and games. Dancing particularly was an essential part of all religious ceremonies; each tribe held its own celebration separately.

5. A tribal council for the common affairs of the tribe. It was composed of all the sachems and war-chiefs of the different gentes, who were genuinely representative because they could be deposed at any time. It held its deliberations in public, surrounded by the other members of the tribe, who had the right to join freely in the discussion and to make their views heard. The decision rested with the council. As a rule, everyone was given a hearing who asked for it; the women could also have their views expressed by a speaker of their own

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18Ibid., p. 117 —Ed.
Among some tribes we find a head chief, whose powers, however, are very slight. He is one of the sachems, and in situations demanding swift action he has to take provisional measures, until the council can assemble and make a definite decision. His function represents the first feeble attempt at an official with executive power, though generally nothing more came of it; as we shall see, the executive official developed in most cases, if not in all, out of the chief military commander.

The great majority of the American Indians did not advance to any higher form of association than the tribe. Living in small tribes, separated from one another by wide tracts between their frontiers, weakened by incessant wars, they occupied an immense territory with few people. Here and there alliances between related tribes came into being in the emergency of the moment and broke up when the emergency had passed. But in certain districts tribes which were originally related and had then been dispersed, joined together again in permanent federations, thus taking the first step towards the formation of nations. In the United States we find the most developed form of such a federation among the Iroquois. Emigrating from their homes west of the Mississippi, where they probably formed a branch of the great Dakota family, they settled after long wanderings in what is now the State of New York. They were divided into five tribes: Senecas, Cayugas, Onondagas, Oneidas and Mohawks. They subsisted on fish, game, and the products of a crude horticulture, and lived in villages, which were generally protected by a stockade. Never more than twenty thousand strong, they had a number of gentes common to all the five tribes, spoke closely related dialects of the same language, and occupied a continuous stretch of territory which was divided up among the five tribes. As they had newly conquered this territory, these tribes were naturally accustomed to stand together against the inhabitants they had driven out. From this developed, at the beginning of the fifteenth century at latest, a regular C(everlasting league)," a sworn confederacy, which in the consciousness of its new strength immediately assumed an aggressive character, and at the height of its power, about 1675, conquered wide stretches of the surrounding country, either expelling the inhabitants or making them pay tribute. The Iroquois confederacy represents the most advanced social organization achieved by any Indians still at the lower stage of barbarism (excluding, therefore, the Mexicans, New Mexicans and Peruvians).

The main provisions of the confederacy were as follows:

1. Perpetual federation of the five consanguineous tribes on the basis of complete equality and independence in all internal matters of the tribe. This bond of kin represented the real basis of the confederacy. Of the five tribes, three were known as father tribes and were brother tribes to one another; the other two were known as son tribes, and were likewise brother tribes to one another. Three gentes, the oldest, still had their living representatives in all five tribes, and another three in three tribes; the members of each of these gentes were all brothers of one another throughout all the five tribes. Their common language, in which there were only variations of dialect, was the expression and the proof of their common descent.
2. The organ of the confederacy was federal council of fifty sachems, all equal in rank and authority; the decisions of this council were final in all matters relating to the confederacy.

3. The fifty sachems were distributed among the tribes and gentes at the foundation of the confederacy to hold the new offices specially created for federal purposes. They were elected by the respective gentes whenever a vacancy occurred and could be deposed by the gentes at any time; but the right of investing them with their office belonged to the federal council.

4. These federal sachems were also sachems in their respective tribes, and had a seat and a vote in the tribal council.

5. All decisions of the federal council had to be unanimous.

6. Voting was by tribes, so that for a decision to be valid every tribe and all members of the council in every tribe had to signify their agreement.

7. Each of the five tribal councils could convene the federal council, but it could not convene itself.

8. The meetings of the council were held in the presence of the assembled people; every Iroquois could speak; the council alone decided.

9. The confederacy had no official head or chief executive officer.

10. On the other hand, the council had two principal war-chiefs, with equal powers and equal authority (the two “kings” of the Spartans, the two consuls in Rome).


doision tribes become nations, entire groups of tribes; how the languages change until they not only become unintelligible to other tribes, but also lose almost every trace of their original identity; how at the same time within the tribes each gens splits up into several gentes, how the old mother gentes are preserved as phratries, while the names of these oldest gentes nevertheless remain the same in widely distant tribes that have long been separated—the Wolf and the Bear are still gentile names among a majority of all Indian tribes. And the constitution described above applies in the main to them all, except that many of them never advanced as far as the confederacy of related tribes.

But once the gens is given as the social unit, we also see how the whole constitution of gentes, phratries, and tribes is almost necessarily bound to develop from this unit, because the development is natural. Gens, phratri, and tribe are all groups of different degrees of consanguinity, each self-contained and ordering its own affairs, but each supplementing the other. And the affairs which fall within their sphere comprise all the public affairs of barbarians of the lower stage. When we find a people with the gens as their social unit, we may therefore also look for an organization of the tribe similar to that here described; and when there are adequate sources, as in the case of the Greeks and the Romans, we shall not only find it, but we shall also be able to convince ourselves that where the sources fail us, comparison with the American social constitution helps us over the most difficult doubts and riddles.

And a wonderful constitution it is, this gentile constitution, in all its childlike simplicity! No soldiers, no gendarmes or police, no nobles, kings, regents, prefects, or judges, no prisons, no lawsuits—and everything takes its orderly course. All quarrels and disputes are settled by the whole of the community affected, by the gens or the tribe, or by the gentes among themselves; only as an extreme and exceptional measure is blood revenge threatened—and our capital punishment is nothing but blood revenge in a civilized form, with all the advantages and drawbacks of civilization. Although there were many more matters to be settled in common than today—the household is maintained by a number of families in common, and is communistic, the land belongs to the tribe, only the small gardens are allotted provisionally to the households—yet there is no need for even a trace of our complicated administrative apparatus with all its ramifications. The decisions are taken by those concerned, and in most cases everything has been already settled by the custom of centuries. There cannot be any poor or needy—the communal household and the gens know their responsibilities towards the old, the sick, and those disabled in war. All are equal and free—the
women included. There is no place yet for slaves, nor, as a rule, for the subjugation of other tribes. When, about the year 1651, the Iroquois had conquered the Eries and the “Neutral Nation,” they offered to accept them into the confederacy on equal terms; it was only after the defeated tribes had refused that they were driven from their territory. And what men and women such a society breeds is proved by the admiration inspired in all white people who have come into contact with unspoiled Indians, by the personal dignity, uprightness, strength of character, and courage of these barbarians.

We have seen examples of this courage quite recently in Africa. The Zulus a few years ago and the Nubians a few months ago—both of them tribes in which gentile institutions have not yet died out—did what no European army can do. Armed only with lances and spears, without firearms, under a hail of bullets from the breech-loaders of the English infantry—acknowledged the best in the world at fighting in close order—they advanced right up to the bayonets and more than once threw the lines into disorder and even broke them, in spite of the enormous inequality of weapons and in spite of the fact that they have no military service and know nothing of drill. Their powers of endurance and performance are shown by the complaint of the English that a Kaffir travels farther and faster in twenty-four hours than a horse. His smallest muscle stands out hard and firm like whipcord, says an English painter.

That is what men and society were before the division into classes. And when we compare their position with that of the overwhelming majority of civilized men today, an enormous gulf separates the present-day proletarian and small peasant from the free member of the old gentile society.

That is the one side. But we must not forget that this organization was doomed. It did not go beyond the tribe. The confederacy of tribes already marks the beginning of its collapse, as will soon be apparent, and was already apparent in the attempts at subjugation by the Iroquois. Outside the tribe was outside the law. Wherever there was not an explicit treaty of peace, tribe was at war with tribe, and wars were waged with the cruelty which distinguishes man from other animals, and which was only mitigated later by self-interest. The gentile constitution in its best days, as we saw it in America, presupposed an extremely undeveloped state of production and therefore an extremely sparse population over a wide area. Man’s attitude to nature was therefore one of almost complete subjection to a strange incomprehensible power, as is reflected in his childish religious conceptions. Man was bounded by his tribe, both in relation to strangers from outside the tribe and to himself; the tribe, the gens, and their institutions were sacred and inviolable, a higher power established by nature, to which the individual subjected himself unconditionally in feeling, thought, and action. However impressive the people of this epoch appear to us, they are completely undifferentiated from one another; as Marx says, they are still attached to the navel string of the primitive community.  

The power of this primitive community had to be broken, and it was broken. But it was broken by influences which from the very start appear as a degradation, a fall from the simple moral greatness of the old gentile society. The lowest interests—base greed, brutal appetites, sordid avarice, selfish robbery of the common wealth—inhabit the new, civilized, class society. It is by the vilest means—thievery, violence, fraud, treason—that the old classless gentile society is undermined and overthrown. And the new society itself, during all the two and a half thousand years of its existence, has never been anything else but the development of the small minority at the expense of the great exploited and oppressed majority; today it is so much more than ever before.

4. The Greek Gens

From prehistoric times Greeks and Pelasgians alike, and other peoples of kindred stock, had been organized in the same organic series as the Americans: gens, phratry, tribe, confederacy of tribes. The phratry might be absent, as among the Dorians, and the confederacy of tribes was not necessarily fully developed everywhere as yet; but in every case the gens was the unit. At the time of their entry into history, the Greeks are on the threshold of civilization; between them and the American tribes, of whom we spoke above, lie almost two entire great periods of development, by which the Greeks of the heroic age are ahead of the Iroquois. The gens of the Greeks is therefore no longer the archaic gens of the Iroquois; the impress of group marriage is beginning to be a good deal blurred. Mother-right has given way to father-right; increasing private wealth has thus made its first breach in the gentile constitution. A second breach followed naturally from the first. After the introduction of father-right the property of a rich heiress would have passed to her husband and thus into another gens on her marriage, but the foundation of all gentile law was now violated and in such a case the girl was not only permitted but ordered to marry within the gens, in order that her property should be retained for the gens.

19. “Those ancient social organisms of production are, as compared with bourgeois society, extremely simple and transparent. But they are founded either on the immature development of man individually, who has not yet severed the umbilical cord that united him with his fellow men in a primitive tribal community, or upon direct relations of domination and subjection.”—(Karl Marx, Capital Vol. I, p. 51; New York.) Ed.
According to Grote’s History of Greece, the Athenian gens, in particular, was held together by the following institutions and customs:

1. Common religious rites, and the exclusive privilege of priesthood in honor of a particular god, the supposed ancestral father of the gens, who in this attribute was designated by a special surname.


3. Mutual right of inheritance.

4. Mutual obligations of help, protection, and assistance in case of violence.

5. Mutual right and obligation to marry within the gens in certain cases, especially for orphan girls and heiresses.

6. Possession, at least in some cases, of common property, with a special archon (head man or president) and treasurer.

Next, several gentes were united in the phratry, but less closely; though here also we find mutual rights and obligations of a similar kind, particularly the common celebration of certain religious ceremonies and the right to avenge the death of a phrator. Similarly, all the phratries of a tribe held regularly recurring religious festivals in common, at which a leader of the tribe (phyllobasileus), elected from the nobility (Eupatridai), officiated.

Thus far Grote. And Marx adds:

“...In the Greek gens, the savage (e.g. Iroquois) shows through unmistakably.” He becomes still more unmistakable when we investigate further.

For the Greek gens has also the following characteristics:

7. Descent in the male line.

8. Prohibition of marriage within the gens except in the case of heiresses. This exception, and its formulation as an ordinance, prove the old rule to be valid. This is further substantiated by the universally accepted principle that at her marriage the woman renounced the religious rites of her gens and went over to those of her husband, being also inscribed in his phratry. This custom and a famous passage in Diccadarchus both show that marriage outside the gens was the rule, and Becker in Charicles directly assumes that nobody might marry within his own gens.

9. The right of adoption into the gens. This was exercised through adoption into the family, but required public formalities and was exceptional.

10. The right to elect chieftains and to depose them. We know that every gens had its archon; but it is nowhere stated that the office was hereditary in certain families. Until the end of barbarism the probability is always against strict heredity, which is quite incompatible with conditions in which rich and poor had completely equal rights within the gens.

Not only Grote, but also Niebuhr, Mommsen and all the other historians of classical antiquity, have come to grief over the gens. Though they correctly noted many of its characteristics, they always took it to be a group of families, thus making it impossible for themselves to understand the nature and origin of the gens. Under the gentile constitution, the family was never an organizational unit, and could not be so, for man and wife necessarily belonged to two different gentes. The whole gens was incorporated within the phratry, and the whole phratry within the tribe; but the family belonged half to the gens of the man and half to the gens of the woman. In public law the state also does not recognize the family; up to this day, the family only exists for private law. And yet all our histories have hitherto started from the absurd assumption, which, since the eighteenth century in particular, has become inviolable, that the monogamous single family, which is hardly older than civilization, is the core around which society and state have gradually crystallized.

Mr. Grote will also please note (Marx throws in) that though the Greeks derive their gentes from mythology, the gentes are older than the mythology which they themselves created with all its gods and demigods.

Morgan prefers to quote Grote because he is not only an impressive but also a trustworthy witness. Grote goes on to say that every Athenian gens had a name derived from its supposed ancestor; that it was the general custom before Solon, and even after Solon, in the absence of a will, for the property of a deceased person to pass to the members of his gens (gennetai), and that in the case of a murder it was the light and the duty, first of the relatives of the murdered man, then of the members of his gens, and lastly of his phratry, to prosecute the criminal before the tribunals: “All that we hear of the most ancient Athenian laws is based upon the gentile and phratric divisions.” (Grote.)

The descent of the gentes from common ancestors has caused the “pedantic philistines,” as Marx calls them, a lot of brain-racking. As they of course declare the common ancestors to be pure myths, they are at an utter loss to explain how the gens originated out of a number of separate and originally quite unrelated families; yet they have to perform this feat in order to explain how the gentes exist at all. So they argue in circles, with floods of
words, never getting any further than the statement: the ancestral tree is a fairy tale, but the gens is a reality. And finally Grote declares (interpolations by Marx):

We hear of this genealogy but rarely, because it is only brought before the public in certain cases pre-eminent and venerable. But the humbler gentes had their common rites (this is strange, Mr. Grote!), and common superhuman ancestor and genealogy, as well as the more celebrated (this is most strange, Mr. Grote, among humbler gentes!): the scheme and ideal basis (my good sir, not ideal, but carnal, germanice fleischlich!) was the same in all. (Quoted by Morgan, op. cit., p. 239.—Ed.)

Marx summarizes Morgan’s reply to this as follows:

“The system of consanguinity corresponding to the original form of the gens and the Greeks, like other mortals, once possessed such a gens—preserved the knowledge of the mutual relations between all members of a gens to each other. They learned this, for them decisively important, fact by practice from early childhood. This fell into desuetude with the rise of the monogamian family. The gentile name created a pedigree beside which that of the individual family was insignificant. This name was now to preserve the fact of the common descent of those who bore it; but the lineage of the gens went so far that its members could no longer prove the actual relationship existing between them, except in a limited number of cases through recent common ancestors. The name itself was the evidence of a common descent, and conclusive proof, except in cases of adoptin. The actual denial of all kinship between gentiles à la Grote and Neibuhr, which transforms the gens into a purely fictitious, fanciful creation of the brain, is, on the other hand, worthy of ‘ideal’ scientists, that is, of cloistered bookworms. Because concatenation of the generations, especially with the incipience of monogamy, is removed into the distance, and the reality of the past seems reflected in mythological fantasy, the good old Philistines concluded, and still conclude, that the fancied genealogy created real gentes!"

As among the Americans, the phratry was a mother gens, split up into several daughter gentes, and uniting them, often tracing them all to a common ancestor. Thus, according to Grote,

“all the cointemporary members of the phratry of Hekataeus had a common god for their ancestor at the sixteenth degree.”

Hence, all the gentes of this phratry were literally brother gentes. The phratry still occurs in Homer as a military unit in that famous passage where Nestos advises Aagememon: Draw up people by tribes and by phratries so that phratry may support phratry, and tribe tribe. The phratry has further the right and the duty of phratries so that phratry may support phratry, and tribe tribe. The phratry numbering thirty gentes. Such a rounded symmetry of groups presupposes conscious, purposeful interference with the naturally developed order. As to how, when, and why this occurred, Greek history is silent; the historical memory of the Greeks only went back to the heroic age.

As the Greeks were crowded together in a relatively small territory, differences of dialect were less developed than in the wide American forests; yet in Greece also it was only tribes of the same main dialect that united in a larger organization, and even Attica, small as it was, had a dialect of its own, which later, through its general use as the language of prose, became the dominant dialect.

In the Homeric poems we find most of the Greek tribes already united into small nations, within which, however, gentes, phratries, and tribes retained their full independence. They already lived in towns fortified with walls; the population increased with the increase of the herds, the extension of agriculture and the beginnings of handicraft. The differences in wealth thus became more pronounced, and with them the aristocratic element within the old primitive democracy. The various small nations waged incessant wars for the possession of the best land and doubtless also for booty; the use of prisoners of war as slaves was already a recognized institution.

The constitution of these tribes and small nations was as follows:

(1) The permanent authority was the council (boule), probably composed originally of all the chiefs of the gentes; later, when their number became too large, of a selection, whose choice provided an opportunity of extending and strengthening the aristocratic element. Dionysius actually speaks of the council in the heroic age as composed of nobles (kratistoi). The ultimate decision in important matters rested with the council. Thus in AEschylus the council of Thebes makes what is in the circumstances the vital decision to give Eteocles an honorable burial, but to throw out the corpse of Polynices to be devoured by dogs. When the state was established, this council was merged into the senate.

(2) The assembly of the people (agora). We saw among the Iroquois how the people, men and women, stood round the council when it was hold-
ing its meetings, intervening in an orderly manner in its deliberations and thus influencing its decisions. Among the Homeric Greeks, this Umstand (standing round), to use an old German legal expression, had already developed into a regular assembly of the people, as was also the case among the Germans in primitive times. It was convened by the council to decide important questions; every man had the right to speak. The decision was given by a show of hands (AEschylus, The Suppliants) or by acclamation. The decision of the assembly was supreme and final, for, says Schomann, in Griechische Altertumer,

"if the matter was one requiring the co-operation of the people for its execution, Homer does not indicate any means by which the people could be forced to co-operate against their will."

For at this time, when every adult male member of the tribe was a warrior, there was as yet no public power separate from the people which could have been used against the people. Primitive democracy was still in its full strength, and it is in relation to that fact that the power and the position both of the council and of the basileus must first be judged.

(3) The leader of the army (basileus). Marx makes the following comment:

European scholars, born lackeys most of them, make the basileus into a monarch in the modern sense. Morgan, the Yankee republican, protests. Very ironically, but truly, he says of the oily-tongued Gladstone and his Juventus Mundi:

"Mr. Gladstone, who presents to his readers the Grecian chiefs of the heroic age as kings and princes, with the super-added qualities of gentlemen, is forced to admit that 'on the whole we seem to have the custom or law of primogeniture sufficiently, but not oversharply defined.'" (Morgan, op. cit., p. 255 m.—Ed.)

Mr. Gladstone will probably agree that such an ambiguous law of primogeniture may be "sufficiently, but not oversharply defined" as being just as good as none at all.

In what sense the offices of sachem and chief-tain were hereditary among the Iroquois and other Indians, we have already seen. All offices were elective, generally within a gens, and to that extent hereditary to the gens. In the course of time, preference when filling vacancies was given to the nearest gentle relation-brother or sister's son—unless there were reasons for passing him over. The fact that among the Greeks, under father-right, the office of basileus generally passed to the son, or one of the sons, only proves that the probabilities were in favor of the sons succeeding to the office by popular election; it is no proof at all of legal hereditary succession without popular election. All that we have here is the first beginnings among the Iroquois and Greeks of distinct noble families within the gentes and, in the case of the Greeks, the first beginnings also of a future hereditary leadership or monarchy. The probability is, therefore, that among the Greeks the basileus had either to be elected by the people or at least confirmed in his office by the recognized organs of the people, the council or agora, as was the case with the Roman "king" (rex).

In the Iliad, Agamemnon, the ruler of men, does not appear as the supreme king of the Greeks, but as supreme commander of a federal army before a besieged town. It is to this supremacy of command that Odysseus, after disputes had broken out among the Greeks, refers in a famous passage: "Evil is the rule of many; let one be commander," etc. (The favorite line about the scepter is a later addition.)

Odysseus is here not giving a lecture on a form of government, but demanding obedience to the supreme commander in war. Since they are appearing before Troy only as an army, the proceedings in the agora secure to the Greeks all necessary democracy. When Achilles speaks of presents—that is, the division of the booty—he always leaves the division, not to Agamemnon or any other basileus, but to the "sons of the Achacans," that is, the people. Such epithets as "descended from Zeus," "nourished by Zeus," prove nothing, for every gens is descended from a god, that of the leader of the tribe being already descended from a "superior" god, in this case Zeus. Even those without personal freedom, such as the swineherd Eumaeus and others, are "divine" (dioi and theioi), and that too in the Odyssey, which is much later than the Iliad; and again in the Odyssey the name Heros is given to the herald Mulius as well as to the blind bard Demodocus. Since, in short, council and assembly of the people function together with the basileus, the word basileia, which Greek writers employ to denote the so-called Homeric kingship (chief command in the army being the principal characteristic of the office), only means—military democracy. (Marx.)

In addition to his military functions, the basileus also held those of priest and judge, the latter not clearly de-
fined, the former exercised in his capacity as supreme representative of the tribe or confederacy of tribes. There is never any mention of civil administrative powers; he seems, however, to be a member of the council ex officio. It is there fore quite correct etymologically to translate basileus as king, since king (kuning) is derived from kuni, kunne, and means head of a gens. But the old Greek basileus does not correspond in any way to the present meaning of the word “king.” Thucydides expressly refers to the old basileia as patrike, i.e. derived from gentes, and says it had strictly defined, and therefore limited, functions. And Aristotle says that the basileia of the heroic age was a leadership over free men and that the basileus was military leader, judge and high priest; he thus had no governmental power in the later sense.20

Thus in the Greek constitution of the heroic age we see the old gentile order as still a living force. But we also see the beginnings of its disintegration: father-right, with transmission of the property to the children, by which accumulation of wealth within the family was favored and the family itself became a power as against the gens; reaction of the inequality of wealth on the constitution by the formation of the first rudiments of hereditary nobility and monarchy; slavery, at first only of prisoners of war, but already preparing the way for the enslavement of fellow-members of the tribe and even of the gens; the old wars between tribe and tribe already degenerating into systematic pillage by land and sea for the acquisition of cattle, slaves and treasure, and becoming a regular source of wealth; in short, riches praised and respected as the highest good and the old gentile order misused to justify the violent seizure of riches. Only one thing was wanting: an institution which not only secured the newly acquired riches of individuals against the communistic traditions of the gentile order, which not only sanctified the private property formerly so little valued, and declared this sanctification to be the highest purpose of all human society; but an institution which set the seal of general social recognition on each new method of acquiring property and thus amassing wealth at continually increasing speed; an institution which perpetuated, not only this growing cleavage of society into classes, but also the right of the possessing class to exploit the non-possessing, and the rule of the former over the latter.

And this institution came. The state was invented.

5. The Rise of the Athenian State

How the state developed, how the organs of the gentile constitution were partly transformed in this development, partly pushed aside by the introduction of new organs, and at last superseded entirely by real state authorities, while the true “people in arms,” organized for its self-defense in its gentes, phratries, and tribes, was replaced by an armed “public force” in the service of these state authorities and therefore at their command for use also against the people—this process, at least in its first stages, can be followed nowhere better than in ancient Athens. The changes in form have been outlined by Morgan, but their economic content and cause must largely be added by myself.

In the Heroic age the four tribes of the Athenians were still settled in Attica in separate territories; even the twelve phratries composing them seem still to have had distinct seats in the twelve towns of Cecrops. The constitution was that of the heroic age: assembly of the people, council of the people, basileus. As far as written history takes us back, we find the land already divided up and privately owned, which is in accordance with the relatively advanced commodity production and the corresponding trade in commodities developed towards the end of the upper stage of barbarism. In addition to grain, wine and oil were produced; to a continually increasing extent, the sea trade in the Agean was captured from the Phoenicians, and most of it passed into Athenian hands. Through the sale and purchase of land, and the progressive division of labor between agriculture and handicraft, trade, and shipping, it was inevitable that the members of the different gentes, phratries, and tribes very soon became intermixed, and that into the districts of the phratre and tribe moved inhabitants, who, although fellow countrymen, did not belong to these bodies and were therefore strangers in their own place of domicile. For when times were quiet, each tribe and each phratre administered its own affairs without sending to Athens to consult the council of the people or the basileus. But anyone not a member of the phratre or tribe was, of course, excluded from taking any part in this administration, even though living in the district.

The smooth functioning of the organs of the gentile constitution was thus thrown so much out of gear that even in the heroic age remedies had to be found. The constitution ascribed to Theseus was introduced. The principal change which it made was to set up a central leader, judge and high priest; he thus had no governmental power in the later sense.20

Like the Greek basileus, so also the Aztec military chief has been made out to be a modern prince. The reports of the Spaniards, which were at first misinterpretations and exaggerations, and later actual lies, were submitted for the first time to historical criticism by Morgan. He proves that the Mexicans were at the middle stage of barbarism, though more advanced than the New Mexican Pueblo Indians, and that their constitution, so far as it can be recognized in the distorted reports, corresponded to this stage: a confederacy of three tribes, which had subjugated a number of other tribes and exacted tribute from them, and which was governed by a federal council and a federal military leader, out of whom the Spaniards made an “emperor.”

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authority in Athens—that is, part of the affairs hitherto administered by the tribes independently were declared common affairs and entrusted to the common council sitting in Athens. In taking this step, the Athenians went further than any native people of America had ever done: instead of neighboring tribes forming a simple confederacy, they fused together into one single nation. Hence arose a common Athenian civil law, which stood above the legal customs of the tribes and gentes.

The Athenian citizen, as such, acquired definite rights and new protection in law even on territory which was not that of his tribe. The first step had been taken towards undermining the gentile constitution; for this was the first step to the later admission of citizens who did not belong to any tribe in all Attica, but were, and remained, completely outside the Athenian gentile constitution. By a second measure ascribed to Theseus, the entire people, regardless of gens, phratry or tribe, was divided into three classes: eupatridai, or nobles, geomoroi, or farmers, and demiourgoi, or artisans, and the right to hold office was vested exclusively in the nobility. Apart from the tenure of offices by the nobility, this division remained inoperative, as it did not create any other legal distinctions between the classes. It is, however, important because it reveals the new social elements which had been developing unobserved. It shows that the customary appointment of members of certain families to the offices of the gens had already grown into an almost uncontested right of these families to office; it shows that these families, already powerful through their wealth, were beginning to form groupings outside their gentes as a separate, privileged class, and that the state now taking form sanctioned this presumption. It shows further that the division of labor between peasants and artisans was now firmly enough established in its social importance to challenge the old grouping of gentes and tribes. And, finally, it proclaims the irreconcilable opposition between gentile society and the state; the first attempt at forming a state consists in breaking up the gentes by dividing their members into those with privileges and those with none, and by further separating the latter into two productive classes and thus setting them one against the other.

The further political history of Athens up to the time of Solon is only imperfectly known. The office of basileus fell into disuse; the positions at the head of the state were occupied by archons elected from the nobility. The power of the nobility continuously increased, until about the year 600 B.C. it became insupportable. And the principal means for suppressing the common liberty were—money and usury. The nobility had their chief seat in and around Athens, whose maritime trade, with occasional piracy still thrown in, enriched them and concentrated in their hands the wealth existing in the form of money. From here the growing money economy penetrated like corrosive acid into the old traditional life of the rural communities founded on natural economy. The gentile constitution is absolutely irreconcilable with money economy; the ruin of the Attic small farmers coincided with the loosening of the old gentile bonds which embraced and protected them. The debtor’s bond and the lien on property (for already the Athenians had invented the mortgage also) respected neither gens nor phratry, while the old gentile constitution, for its part, knew neither money nor advances of money nor debts in money. Hence the money rule of the aristocracy now in full flood of expansion also created a new customary law to secure the creditor against the debtor and to sanction the exploitation of the small peasant by the possessor of money. All the fields of Attica were thick with mortgage columns bearing inscriptions stating that the land on which they stood was mortgaged to such and such for so and so much. The fields not so marked had for the most part already been sold on account of unpaid mortgages or interest, and had passed into the ownership of the noble usurer: the peasant could count himself lucky if he was allowed to remain on the land as a tenant and live on one-sixth of the produce of his labor, while he paid five-sixths to his new master as rent. And that was not all. If the sale of the land did not cover the debt, or if the debt had been contracted without any security, the debtor, in order to meet his creditor’s claims, had to sell his children into slavery abroad. Children sold by their father—such was the first fruit of father-right and monogamy! And if the blood-sucker was still not satisfied, he could sell the debtor himself as a slave. Thus the pleasant dawn of civilization began for the Athenian people.

Formerly, when the conditions of the people still corresponded to the gentile constitution, such an upheaval was impossible; now it had happened—nobody knew how. Let us go back for a moment to our Iroquois, amongst whom the situation now confronting the Athenians, without their own doing, so to speak, and certainly against their will, was inconceivable. Their mode of producing the necessities of life, unvarying from year to year, could never generate such conflicts as were apparently forced on the Athenians from without; it could never create an opposition of rich and poor, of exploiters and exploited. The Iroquois were still very far from controlling nature, but within the limits imposed on them by natural forces they did control their own production. Apart from bad harvests in their small gardens, the exhaustion of the stocks of fish in their lakes and rivers or of the game in their woods, they knew what results they could expect, making their living as they did. The certain result was a livelihood, plentiful or scanty; but one result
there could never be—social upheavals that no one had ever intended, sundering of the gentile bonds, division of gens and tribe into two opposing and warring classes. Production was limited in the extreme, but—the producers controlled their product. That was the immense advantage of barbarian production, which was lost with the coming of civilization; to reconquer it, but on the basis of the gigantic control of nature now achieved by man and of the free association now made possible, will be the task of the next generations.

Not so among the Greeks. The rise of private property in herds and articles of luxury led to exchange between individuals, to the transformation of products into commodities. And here lie the seeds of the whole subsequent upheaval. When the producers no longer directly consumed their product themselves, but let it pass out of their hands in the act of exchange, they lost control of it. They no longer knew what became of it; the possibility was there that one day it would be used against the producer to exploit and oppress him. For this reason no society can permanently retain the mastery of its own production and the control over the social effects of its process of production unless it abolishes exchange between individuals.

But the Athenians were soon to learn how rapidly the product asserts its mastery over the producer when once exchange between individuals has begun and products have been transformed into commodities. With the coming of commodity production, individuals began to cultivate the soil on their own account, which soon led to individual ownership of land. Money followed, the general commodity with which all others 101 were exchangeable. But when men invented money, they did not think that they were again creating a new social power, the one general power before which the whole of society must bow. And it was this new power, suddenly sprung to life without knowledge or will of its creators, which now, in all the brutality of its youth, gave the Athenians the first taste of its might.

What was to be done? The old gentile constitution had not only shown itself powerless before the triumphal march of money; it was absolutely incapable of finding any place within its framework for such things as money, creditors, debtors, and forcible collection of debts. But the new social power was there; pious wishes, and yearning for the return of the good old days would not drive money and usury out of the world. Further, a number of minor breaches had also been made in the gentile constitution. All over Attica, and especially in Athens itself, the members of the different gentes and phratries became still more indiscriminately mixed with every generation, although even now an Athenian was only allowed to sell land outside his gens, not the house in which he lived. The division of labor between the different branches of production—agriculture, handicrafts (in which there were again innumerable subdivisions), trade, shipping, and so forth—had been carried further with every advance of industry and commerce; the population was now divided according to occupation into fairly permanent groups, each with its new common interests; and since the gens and the phratry made no provision for dealing with them, new offices had to be created. The number of slaves had increased considerably, and even at that time must have far exceeded the number of free Athenians; the gentile constitution originally knew nothing of slavery and therefore had no means of keeping these masses of bondsmen in order. Finally, trade had brought to Athens a number of foreigners who settled there on account of the greater facilities of making money; they also could claim no rights or protection under the old constitution; and, though they were received with traditional tolerance, they remained a disturbing and alien body among the people.

In short, the end of the gentile constitution was approaching. Society was outgrowing it more every day; even the worst evils that had grown up under its eyes were beyond its power to check or remove. But in the meantime the state had quietly been developing. The new groups formed by the division of labor, first between town and country, then between the different branches of town labor, had created new organs to look after their interests; official posts of all kinds had been set up. And above everything else the young state needed a power of its own, which in the case of the seafaring Athenians could at first only be a naval power, for the purpose of carrying on small wars and protecting its merchant ships. At some unknown date before Solon, the naukrariai were set up, small territorial districts, twelve to each tribe; each naukratia had to provide, equip and man a warship and also contribute two horsemen. This institution was a twofold attack on the gentile constitution. In the first place, it created a public force which was now no longer simply identical with the whole body of the armed people; secondly, for the first time it divided the people for public purposes, not by groups of kinship, but by common place of residence. We shall see the significance of this.

The gentile constitution being incapable of bringing help to the exploited people, there remained only the growing state. And the state brought them its help in the form of the constitution of Solon, thereby strengthening itself again at the expense of the old constitution. Solon—the manner in which his reform, which belongs to the year 594 B.C., was carried through does not concern us here—opened the series of so-called political revolutions; and he did so with an attack on property. All
revolutions hitherto have been revolutions to protect one kind of property against another kind of property. They cannot protect the one without violating the other. In the great French Revolution feudal property was sacrificed to save bourgeois property; in that of Solon, the property of the creditors had to suffer for the benefit of the property of the debtors. The debts were simply declared void. We do not know the exact details, but in his poems Solon boasts of having removed the mortgage columns from the fields and brought back all the people who had fled or been sold abroad on account of debt. This was only possible by open violation of property. And, in fact, from the first to the last, all so-called political revolutions have been made to protect property—of one kind; and they have been carried out by confiscating, also called stealing, property—of another kind. The plain truth is that for two and a half thousand years it has been possible to preserve private property only by violating property.

But now the need was to protect the free Athenians against the return of such slavery. The first step was the introduction of general measures—for example, the prohibition of debt contracts pledging the person of the debtor. Further, in order to place at least some check on the nobles’ ravening hunger for the land of the peasants, a maximum limit was fixed for the amount of land that could be owned by one individual. Then changes were made in the constitution, of which the most important for us are the following:

The council was raised to four hundred members, one hundred for each tribe; here, therefore, the tribe was still taken as basis. But that was the one and only feature of the new state incorporating anything from the old constitution. For all other purposes Solon divided the citizens into four classes according to their property in land and the amount of its yield: five hundred, three hundred and one hundred fifty medimni of grain (one medimnus equals about 1.16 bushels) were the minimum yields for the first three classes; those who owned less land or none at all were placed in the fourth class. All offices could be filled only from the three upper classes, and the highest offices only from the first. The fourth class only had the right to speak and vote in the assembly of the people; but it was in this assembly that all officers were elected, here they had to render their account, here all laws were made; and here the fourth class formed the majority. The privileges of the aristocracy were partially renewed in the form of privileges of wealth, but the people retained the decisive power. Further, the four classes formed the basis of a new military organization. The first two classes provided the cavalry; the third had to serve as heavy infantry; the fourth served either as light infantry without armor or in the fleet, for which they probably received wages.

A completely new element is thus introduced into the constitution: private ownership. According to the size of their property in land, the rights and duties of the citizens of the state are now assessed, and in the same degree to which the classes based on property gain influence, the old groups of blood relationship lose it; the gentle constitution had suffered a new defeat.

However, the assessment of political rights on a property basis was not an institution indispensable to the existence of the state. In spite of the great part it has played in the constitutional history of states, very many states, and precisely those most highly developed, have not required it. In Athens also its role was only temporary; from the time of Aristides all offices were open to every citizen.

During the next eighty years Athenian society gradually shaped the course along which it developed in the following centuries. Usury on the security of mortgaged land, which had been rampant in the period before Solon, had been curbed, as had also the inordinate concentration of property in land. Commerce and handicrafts, including artistic handicrafts, which were being increasingly developed on a large scale by the use of slave labor, became the main occupations. Athenians were growing more enlightened. Instead of exploiting their fellow citizens in the old brutal way, they exploited chiefly the slaves and the non-Athenian customers. Movable property, wealth in the form of money, of slaves and ships, continually increased, but it was no longer a mere means to the acquisition of landed property, as in the old slow days: it had become an end in itself. On the one hand the old power of the aristocracy now had to contend with successful competition from the new class of rich industrialists and merchants; but, on the other hand, the ground was also cut away from beneath the last remnants of the old gentle constitution. The gentes, phratries, and tribes, whose members were now scattered over all Attica and thoroughly intermixed, had thus become useless as political bodies; numbers of Athenian citizens did not belong to any gens at all; they were immigrants, who had indeed acquired rights of citizenship, but had not been adopted into any of the old kinship organizations; in addition, there was the steadily increasing number of foreign immigrants who only had rights of protection.

Meanwhile, the fights went on between parties; the nobility tried to win back their former privileges and for a moment regained the upper hand, until the revolution of Cleisthenes (509 B.C.) overthrew them finally, but with them also the last remnants of the gentle constitution.

In his new constitution, Cleisthenes ignored the four old tribes founded on gentes and phratries. In their place appeared a completely new organization on the basis of division of the citizens merely according to their place of residence, such as had been already attempted in the
The whole of Attica was divided into one hundred communal districts, called "demes," each of which was self-governing. The citizens resident in each deme (demes) elected their president (demarch) and treasurer, as well as thirty judges with jurisdiction in minor disputes. They were also given their own temple and patron divinity or hero, whose priests they elected. Supreme power in the deme was vested in the assembly of the demotes. As Morgan rightly observes, here is the prototype of the self-governing American township. The modern state, in its highest development, ends in the same unit with which the rising state in Athens began.

Ten of these units (demes) formed a tribe, which, however, is now known as a local tribe to distinguish it from the old tribe of kinship. The local tribe was not only a self-governing political body, but also a military body; it elected its phylarch, or tribal chief, who commanded the cavalry, the taxiarh commanding the infantry, and the strategos, who was in command over all the forces raised in the tribal area. It further provided five warships with their crews and commanders, and received as patron deity an Attic hero, after whom it was named. Lastly, it elected fifty councilors to the Athenian council.

At the summit was the Athenian state, governed by the council composed of the five hundred councilors elected by the ten tribes, and in the last instance by the assembly of the people, at which every Athenian citizen had the right to attend and to vote; archons and other officials managed the various departments of administration and justice. In Athens there was no supreme official with executive power.

Through this new constitution and the admission to civil rights of a very large number of protected persons, partly immigrants, partly freed slaves, the organs of the gentile constitution were forced out of public affairs; they sank to the level of private associations and religious bodies. But the moral influence of the old gentile period and its traditional ways of thought were still handed down for a long time to come, and only died out gradually. We find evidence of this in another state institution.

We saw that an essential characteristic of the state is the existence of a public force differentiated from the mass of the people. At this time, Athens still had only a people's army and a fleet provided directly by the people; army and fleet gave protection against external enemies and kept in check the slaves, who already formed the great majority of the population. In relation to the citizens, the public power at first existed only in the form of the police force, which is as old as the state itself; for which reason the naive French of the eighteenth century did not speak of civilized peoples, but of policed peoples (nations polices). The Athenians then instituted a police force simultaneously with their state, a veritable gendarmerie of bowmen, foot and mounted Landiger (the country's hunters) as they call them in South Germany and Switzerland. But this gendarmerie consisted of slaves. The free Athenian considered police duty so degrading that he would rather be arrested by an armed slave than himself have any hand in such despicable work. That was still the old gentile spirit. The state could not exist without police, but the state was still young and could not yet inspire enough moral respect to make honorable an occupation which, to the older members of the gens, necessarily appeared infamous.

Now complete in its main features, the state was perfectly adapted to the new social conditions of the Athenians, as is shown by the rapid growth of wealth, commerce, and industry. The class opposition on which the social and political institutions rested was no longer that of nobility and common people, but of slaves and free men, of protected persons and citizens. At the time of their greatest prosperity, the entire free-citizen population of Athens, women and children included, numbered about ninety thousand; besides them there were three hundred and sixty-five thousand slaves of both sexes and forty-five thousand protected persons - aliens and freedmen. There were therefore at least eighteen slaves and more than two protected persons to every adult male citizen. The reason for the large number of slaves was that many of them worked together in manufactories, in large rooms, under overseers. But with the development of commerce and industry wealth was accumulated and concentrated in a few hands, and the mass of the free citizens were impoverished. Their only alternatives were to compete against slave labor with their own labor as handicraftsmen, which was considered base and vulgar and also offered very little prospect of success, or to become social scrap. Necessarily, in the circumstances, they did the latter, and, as they formed the majority, they thereby brought about the downfall of the whole Athenian state. The downfall of Athens was not caused by democracy, as the European lickspittle historians assert to flatter their princes, but by slavery, which banned the labor of free citizens.

The rise of the state among the Athenians is a particularly typical example of the formation of a state; first, the process takes place in a pure form, without any interference through use of violent force, either from without or from within (the usurpation by Pisistratus left no trace of its short duration); second, it shows a very highly developed form of state, the democratic republic, arising directly out of gentile society; and lastly we are suffi-
sufficiently acquainted with all the essential details.

6. The Gens and the State in Rome

According to the legendary account of the foundation of Rome, the first settlement was established by a number of Latin gentes 21 (one hundred, says the legend), who were united in a tribe; these were soon joined by a Sabellian tribe, also said to have numbered a hundred gentes, and lastly by a third tribe of mixed elements, again said to have been composed of a hundred gentes. The whole account reveals at the first glance that very little was still primitive here except the gens, and that even it was in some cases only an offshoot from a mother gens still existing in its original home. The tribes clearly bear the mark of their artificial composition, even though they are generally composed out of related elements and after the pattern of the old tribe, which was not made but grew; it is, however, not an impossibility that the core of each of the three tribes was a genuine old tribe. The intermediate group, the phratry, consisted of ten gentes and was called a curia; there were therefore thirty curiae.

The Roman gens is recognized to be the same institution as the Greek gens; and since the Greek gens is a further development of the social unit whose original form is found among the American Indians, this, of course, holds true of the Roman gens also. Here therefore we can be more brief.

The Roman gens, at least in the earliest times of Rome, had the following constitution:

1. Mutual right of inheritance among gentile members; the property remained within the gens. Since father-right already prevailed in the Roman gens as in the Greek, descendants in the female line were excluded. According to the Law of the Twelve Tables, the oldest written Roman law known to us, the children, as natural heirs, had the first title to the estate; in default of children, then the agnates (descendants in the male line); in default of agnates, the gentiles. In all cases the property remained within the gens. Here we see gentile custom gradually being penetrated by the new legal provisions springing from increased wealth and monogamy: the original equal right of inheritance of all members of the gens is first restricted in practice to the agnates—probably very early, as already mentioned—finally, to the children and their issue in the male line; in the Twelve Tables this appears, of course, in the reverse order.

2. Possession of a common burial place. On their im-

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21 As gentes is here the Latin word used by the Romans, it is printed in italics to distinguish it from the general term “gens” used throughout the book—Ed.
use the gentile name of their former master, but without gentile rights.

8. Right to adopt strangers into the gens. This was done through adoption into a family (as among the Indians), which carried with it acceptance into the gens.

9. The right to elect the chief and to depose him is nowhere mentioned. But since in the earliest days of Rome all offices were filled by election or nomination, from the elected king downwards, and since the priests of the curiae were also elected by the curiae themselves, we may assume the same procedure for the presidents (Incises) of the gentes however firmly established the election from one and the same family within the gens may have already become.

Such were the rights of a Roman gens. Apart from the already completed transition to father-right, they are the perfect counterpart of the rights and duties in an Iroquois gens; here again “the Iroquois shows through unmistakably” (p. 90).

The confusion that still exists today, even among our leading historians, on the subject of the Roman gens, may be illustrated by one example. In his paper on Roman family names in the period of the Republic and of Augustus (Romische Forschungen, Berlin, 1864, Vol. I, pp. 8–11) Mommsen writes:

The gentile name belongs to all the male members of the gens, excluding, of course, the slaves, but including adopted and protected persons; it belongs also to the women ... The tribe (as Mommsen here translates gens) is ... a communal entity, derived from common lineage (real, supposed or even pretended) and united by communal festivities, burial rites and laws of inheritance; to it all personally free individuals, and therefore all women also, may and must belong. But it is difficult to determine what gentile name was borne by married women. So long as the woman may only marry a member of her own gens, this problem does not arise; and there is evidence that for a long period it was more difficult for women to marry outside than inside the gens; for instance, so late as the sixth century (B.C.) the right of gentis enuptio (marriage outside the gens) was a personal privilege, conceded as a reward ... But when such marriages outside the tribe took place, the wife, in earliest times, must thereby have gone over to her husband’s tribe. Nothing is more certain than that the woman, in the old religious marriage, enters completely into the legal and sacramental bonds of her husband’s community and leaves her own. Everyone knows that the married woman forfeits the right of inheritance and bequest in relation to members of her own gens but shares rights of inheritance with her husband and children and the members of their gens. And if she is adopted by her husband and taken into his family, how can she remain apart from his gens?

Mommsen therefore maintains that the Roman women who belonged to a gens had originally been permitted to marry only within the gens, that the gens had therefore been endogamous, not exogamous. This view, which is in contradiction to all the evidence from other peoples, rests chiefly, if not exclusively, on one much disputed passage from Livy (Book XXXIX, Ch. 19), according to which the senate in the year 568 after the foundation of the city, or 186 B.C., decreed: “Uti Feceniae Hispala datio deminutio gentis enuptio tutoris optio item esset, quasi ei vir testamentis dedisset; utique ei ingenuo nube liceret, neu quid ei qui eam duxisset ob id fraudi ignominia esse”—that Fecenia Hispala shall have the right to dispose of her property, to decrease it, to marry outside the gens, and to choose for herself a guardian, exactly as if her (deceased) husband had conferred this right on her by testament; that she may marry a freeman, and that the man who takes her to wife shall not be considered to have committed a wrongful or shameful act thereby.

Without a doubt, Fecenia, a freedwoman, is here granted the right to marry outside the gens. And equally without a doubt the husband possessed the right, according to this passage, to bequeath to his wife by will the right to marry outside the gens after his death. But outside which gens?

If the woman had to marry within her gens, as Mommsen assumes, she remained within this gens also after her marriage. But in the first place the endogamous character of the gens which is here asserted is precisely what has to be proved. And, secondly, if the wife had to marry within the gens, then, of course, so had the man, for otherwise he could not get a wife. So we reach the position that the man could bequeath to his wife by will a right which he himself, and for himself, did not possess; we arrive at a legal absurdity. Mommsen also feels this, and hence makes the assumption: “For a lawful marriage outside the gens, it was probably necessary to have the consent, not only of the chief, but of all members of the gens.” That is a very bold assumption in the first place, and, secondly, it contradicts the clear wording of the passage. The senate grants her this right in the place of her husband; it grants her expressly neither more nor less than her husband could have granted her, but what it grants her is an absolute right, conditional upon no other restriction. Thus it is provided that if she makes use of this right, her new husband also shall not suffer any disability. The senate even directs the present and future consuls and praetors to see to it that no injurious consequences to her follow. Mommsen’s assumption therefore seems to be completely inadmissible.

Or assume that the woman married a man from another gens, but herself remained in the gens into which she had been born. Then, according to the above pas-
sage, the man would have had the right to allow his wife to marry outside her own gens. That is, he would have had the right to make dispositions in the affairs of a gens to which he did not even belong. The thing is so patently absurd that we need waste no more words on it.

Hence there only remains the assumption that in her first marriage the woman married a man from another gens, and thereby immediately entered the gens of her husband, which Mommsen himself actually admits to have been the practice when the woman married outside her gens. Then everything at once becomes clear. Severed from her old gens by her marriage and accepted into the gentile group of her husband, the woman occupies a peculiar position in her new gens. She is, indeed, a member of the gens, but not related by blood. By the mere manner of her acceptance as a gentile member, she is entirely excluded from the prohibition against marrying within the gens, for she has just married into it; further, she is accepted as one of the married members of the gens, and on her husband’s death inherits from his property, the property of a gentile member. What is more natural than that this property should remain within the gens and that she should therefore be obliged to marry a member of her husband’s gens and nobody else? And if an exception is to be made, who is so competent to give her the necessary authorization as the man who has bequeathed her this property, her first husband? At the moment when he bequeaths her a part of his property and at the same time allows her to transfer it into another gens through marriage or in consequence of marriage, this property still belongs to him and he is therefore literally disposing of his own property. As regards the woman herself and her relation to her husband’s gens, it was he who brought her into the gens by a free act of will- the marriage; hence it also seems natural that he should be the proper person to authorize her to leave this gens by a second marriage. In a word, the matter appears simple and natural as soon as we abandon the extraordinary conception of the endogamous Roman gens and regard it, with Morgan, as originally exogamous.

There still remains one last assumption which has also found adherents, and probably the most numerous. On this view, the passage only means that “freed servants (liberty) could not without special permission e gente enubere (marry out of the gens) or perform any of the acts, which, involving loss of rights (capitis diminutio minima), would have resulted in the liberta leaving the gens.” (Lange, Romische Altertumer, Berlin 1856, I, 195, where Huschke is cited in connection with our passage from Livy.) If this supposition is correct, the passage then proves nothing at all about the position of free Roman women, and there can be even less question of any obligation resting on them to marry within the gens.

The expression enuptio gentis only occurs in this one passage and nowhere else in the whole of Latin literature; the word enubere, to marry outside, only occurs three times, also in Livy, and then not in reference to the gens. The fantastic notion that Roman women were only allowed to marry within their gens owes its existence solely to this one passage. But it cannot possibly be maintained. For either the passage refers to special restrictions for freedwomen, in which case it proves nothing about free women (ingenue,); or it applies also to free women; and then it proves, on the contrary, that the woman married as a rule outside her gens, but on her marriage entered into the gens of her husband; which contradicts Mommsen and supports Morgan.

Almost three centuries after the foundation of Rome, the gentile groups were still so strong that a patrician gens, that of the Fabii, was able to undertake an independent campaign, with the permission of the senate, against the neighboring town of Veii; three hundred and six Fabii are said to have set out and to have been killed to a man, in an ambush; according to the story, only one boy who had remained behind survived to propagate the gens.

As we have said, ten gentes formed a phratry, which among the Romans was called a curia and had more important public functions than the Greek phratry. Every curia had its own religious rites, shrines and priests; the latter, as a body, formed one of the Roman priestly colleges. Ten curiae formed a tribe, which probably, like the rest of the Latin tribes, originally had an elected president-military leader and high priest. The three tribes together formed the Roman people, the Populus Romanus.

Thus no one could belong to the Roman people unless he was a member of a gens and through it of a curia and a tribe. The first constitution of the Roman people was as follows: Public affairs were managed in the first instance by the senate, which, as Niebuhr first rightly saw, was composed of the presidents of the three hundred gentes; it was because they were the elders of the gens that they were called fathers, patres, and their body, the senate (council of the elders, from senex, old). Here again the custom of electing always from the same family in the gens brought into being the first hereditary nobility; these families called themselves “patricians,” and claimed for themselves exclusive right of entry into the senate and tenure of all other offices. The acquiescence of the people in this claim, in course of time, and its transformation into an actual right, appear in legend as the story that Romulus conferred the patriciate and its privileges on the first senators and their descendants. The senate, like the Athenian boule, made final decisions in many matters and held preparatory discussions on those of greater importance, particularly new laws. With re-
nor share in the allotment of conquered state lands. They do not hold any office, nor take part in the assembly of the curiae, and tribes, and therefore formed no part of the populus Romanus, the real Roman people. They were peripheral to these, the decision rested with the assembly of the people, called the comitia curiata (assembly of the curiae). The people assembled together, grouped in curiae, each curia probably grouped in gentes; each of the thirty curiae, had one vote in the final decision. The assembly of the curiae accepted or rejected all laws, elected all higher officials, including the rex (so-called king), declared war (the senate, however, concluded peace), and, as supreme court, decided, on the appeal of the parties concerned, all cases involving death sentence on a Roman citizen. Lastly, besides the senate and the assembly of the people, there was the rex, who corresponded exactly to the Greek basileus and was not at all the almost absolute king which Mommsen made him out to be. He also was military leader, high priest, and president of certain courts. He had no civil authority whatever, nor any power over the life, liberty, or property of citizens, except such as derived from his disciplinary powers as military leader or his executive powers as president of a court. The office of rex was not hereditary; on the contrary, he was first elected by the assembly of the curiae, probably on the nomination of his predecessor, and then at a second meeting solemnly installed in office. That he could also be deposed is shown by the fate of Tarquinius Superbus.

Like the Greeks of the heroic age, the Romans in the age of the so-called kings lived in a military democracy founded on gentes, phratries, and tribes and developed out of them. Even if the curiae and tribes were to a certain extent artificial groups, they were formed after the genuine, primitive models of the society out of which they had arisen and by which they were still surrounded on all sides. Even if the primitive patrician nobility had already gained ground, even if the reges were endeavoring gradually to extend their power, it does not change the original, fundamental character of the constitution, and that alone matters.

Meanwhile, Rome and the Roman territory, which had been enlarged by conquest, increased in population, partly through immigration, partly through the addition of inhabitants of the subjugated, chiefly Latin, districts. All these new citizens of the state (we leave aside the question of the clients) stood outside the old gentes, cu-

**Note:** The Latin rex is the same as the Celtic-Irish righ (tribal chief) and the Gothic reiks; that reiks signified head of the gens or tribe, as did also originally the German word Furst (meaning “first”—cf. English first and Danish forste), is shown by the fact that already in the fourth century the Goths had a special word for the later “king,” the military leader of the whole people: thiudans. In Ulfilas’ translation of the Bible, Artaxerxes and Herod are never called reiks, but thiudans, and the empire of the Emperor Tiberius is not called reiki, but thiudinassus. In the name of the Gothic thiudans or, as we inaccurately translate, “king,” Thiudareik (Theodorich, i.e. Dietrich), both titles coalesce.
the exception of a few nominal privileges. The curiae and the gentes of which they were composed were thus degraded, as in Athens, to mere private and religious associations and continued to vegetate as such for a long period while the assembly of the curiae soon became completely dormant. In order that the three old tribes of kinship should also be excluded from the state, four local tribes were instituted, each of which inhabited one quarter of the city and possessed a number of political rights.

Thus in Rome also, even before the abolition of the so-called monarchy, the old order of society based on personal ties of blood was destroyed and in its place was set up a new and complete state constitution based on territorial division and difference of wealth. Here the public power consisted of the body of citizens liable to military service, in opposition not only to the slaves, but also to those excluded from service in the army and from possession of arms, the so-called proletarians.

The banishment of the last rex, Tarquinius Superbus, who usurped real monarchical power, and the replacement of the office of rex by two military leaders (consuls) with equal powers (as among the Iroquois) was simply a further development of this new constitution. Within this new constitution, the whole history of the Roman Republic runs its course, with all the struggles between patricians and plebeians for admission to office and share in the state lands, and the final merging of the patrician nobility in the new class of the great land and money owners, who, gradually swallowing up all the land of the peasants ruined by military service, employed slave labor to cultivate the enormous estates thus formed, depopulated Italy and so threw open the door, not only to the emperors, but also to their successors, the German barbarians.

7. The Gens among Celts and Germans

Space does not allow us to consider the gentile institutions still existing in greater or lesser degree of purity among the most various savage and barbarian peoples, nor the traces of these institutions in the ancient history of the civilized peoples of Asia. The institutions or their traces are found everywhere. A few examples will be enough. Before the gens had been recognized, the man who took the greatest pains to misunderstand it, McLennan himself, proved its existence, and in the main accurately described it, among the Kalmucks, Circassians, Samoyeds and three Indian peoples: the Warali, Magars and Munnioporees. Recently it has been discovered and described by M. Kovalevsky among the Pshavs, Shev-
... the free members of the gens, each receiving a share in each Gewann; moorland and pasture-land are used in common. Only fifty years ago new divisions were still made from time to time, sometimes annually. The field-map of such a village looks exactly like that of a German Gehöfterschaft (peasant community) on the Moselle or in the Mittelwald. The gens also lives on in the “factions.” The Irish peasants often divide themselves into parties based apparently on perfectly absolute or meaningless distinctions; to the English they are quite incomprehensible and seem to have no other purpose than the favorite ceremony of two factions hammering one another. They are artificial revivals, modern substitutes for the dispersed gentes, manifesting in their own peculiar manner the persistence of the inherited gentile instinct. In some districts the members of the gens still live pretty much together on the old territory; in the ’thirties the great majority of the inhabitants of County Monaghan still had only four family names, that is, they were descended from four gentes or clans.

In Scotland the decay of the gentile organization dates from the suppression of the rising of 1745. The precise function of the Scottish clan in this organization still awaits investigation; but that the clan is a gentile body is beyond doubt. In Walter Scott’s novels the Highland clan lives before our eyes. It is, says Morgan:

... an excellent type of the gens in organization and in spirit, and an extraordinary illustration of the power of the gentile life over its members... We find in their feuds and blood revenge, in their localization by gentes, in their use of lands in common, in the fidelity of the clansmen to their chief and of the members of the clan to each other, the usual and persistent features of gentile society... Descent was in the male line, the children of the males remaining members of the clan, while the children of its female members belonged to the clans of their respective fathers.” (Morgan, op. cit., pp. 368–369.—Ed.)

But that formerly mother-right prevailed in Scotland is proved by the fact that, according to Bede, in the royal family of the Picts succession was in the female line. Among the Scots, as among the Welsh, a relic even of the punaluan family persisted into the Middle Ages in the form of the right of the first night, which the head of the clan or the king, as last representative of the former community of husbands, had the right to exercise with every bride, unless it was compounded for money.
THAT THE Germans were organized in gentes until the time of the migrations is beyond all doubt. They can have occupied the territory between the Danube, Rhine, Vistula, and the northern seas only a few centuries before our era; the Cimbri and Teutons were then still in full migration, and the Suevi did not find any permanent habitation until Caesar’s time. Caesar expressly states of them that they had settled in gentes and kindreds (gentibus cognationibusque), and in the mouth of a Roman of the Julian gens the word gentibus has a definite meaning which cannot be argued away. The same was true of all the Germans; they seem still to have settled by gentes even in the provinces they conquered from the Romans. The code of laws of the Alemanni confirms that the people settled by kindreds (genealogiae) in the conquered territory south of the Danube; genealogia is used in exactly the same sense as Markgenossenschaft or Dorfgenossenschaft (Mark or village community – Ed.) later. Kovalevsky has recently put forward the view that these genealogiae—were the large household communities among which the land was divided, and from which the village community only developed later. This would then probably also apply to the fara, with which expression the Burgundians and the Lombards—that is, a Gothic and a Herminonian or High German tribe—designated nearly, if not exactly, the same thing as the genealogiae in the Alemannian code of laws. Whether it is really a gens or a household community must be settled by further research.

The records of language leave us in doubt whether all the Germans had a common expression for gens, and what that expression was. Etymologically, the Gothic kuni, Middle High German kunne, corresponds to the Greek genos and the Latin gens, and is used in the same sense. The fact that the term for woman comes from the same root—Greek gyne, Slav zena, Gothic qvino, Old Norse kona, kuna—points back to the time of mother-right and is therefore primitive, gens.

As among the Mexicans and Greeks, so also among the Germans, the order of battle, both the cavalry squadrons and the wedge formations of the infantry, was drawn up by gentes. Tacitus’ use of the vague expression “by families and kindreds” is to be explained through the fact that in his time the gens in Rome had long ceased to be a living body.

A further passage in Tacitus is decisive. It states that the maternal uncle looks upon his nephew as his own son, and that some even regard the bond of blood between the maternal uncle and the nephew as more sacred and close than that between father and son, so that when hostages are demanded the sister’s son is considered a better security than the natural son of the man whom it is desired to bind. Here we have living evidence, described as particularly characteristic of the Germans, of the patriarchal, and therefore primitive, gens.24 If a member of such a gens gave his own son as a pledge of his oath and the son then paid the penalty of death for his father’s breach of faith, the father had to answer for that to himself. But if it was a sister’s son who was sacrificed, then the most sacred law of the gens was violated. The member of the gens who was nearest of kin to the boy or youth, and more than all others was bound to protect him, was guilty of his death; either he should not have pledged him or he should have kept the agreement. Even if we had no other trace of gentile organization among the Germans, this one passage would suffice.

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24The peculiar closeness of the bond between maternal uncle and nephew, which derives from the time of mother-right and is found among many peoples, is only recognized by the Greeks in their mythology of the heroic age. According to Diodorus, IV, 34, Meleager slays the sons of Theseus, the brothers of his mother Althma. She regards this deed as such an inexpiable crime that she curses the murderer, her own son, and prays for his death. “The gods heard her wishes,” the story says, “and put an end to Meleager’s life.” Also according to Diodorus (IV, 44), the Argonauts land in Thrace under Heracles and there find that Phineus, at the instigation of his new wife, is shamefully ill-treating the two sons born to him by his former wife, the Boread Cleopatra, whom he has put away. But among the Argonauts there are also Boreads, brothers of Cleopatra, therefore maternal uncles of the maltreated boys. They at once take up their nephews’ cause, free them, and kill their guards.

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Still more decisive, because it comes about eight hundred years later, is a passage from the Old Norse poem of the twilight of the gods and the end of the world, the *Voluspa*. In this “vision of the seeress,” into which Christian elements are also interwoven, as Bang and Bugge have now proved, the description of the period of universal degeneration and corruption leading up to the great catastrophe contains the following passage:

Broedhr munu berjask ok at bonum verdask, 
munu systrungar sifjum spilla.

“Brothers will make war upon one another and become one another’s murderers, the children of sisters will break kinship.” Systrungar means the son of the mother’s sister, and that these sisters’ sons should betray the blood-bond between them is regarded by the poet as an even greater crime than that of fratricide. The force of the climax is in the word systrungar, which emphasizes the kinship on the mother’s side; if the word had been syskina-born, brothers’ or sisters’ children, or syskinsynir, brothers’ or sisters’ sons, the second line would not have been a climax to the first, but would merely have weakened the effect. Hence even in the time of the Vikings, when the *Voluspa* was composed, the memory of mother-right had not yet been obliterated in Scandinavia.

In the time of Tacitus, however, mother-right had already given way to father-right, at least among the Germans with whose customs he was more familiar. The children inherited from the father; if there were no children, the brothers, and the uncles on the father’s and the mother’s side. The fact that the mother’s brother was allowed to inherit is connected with the survivals of mother-right already mentioned, and again proves how new father-right still was among the Germans at that time. Traces of mother-right are also found until late in the Middle Ages. Apparently even at that time people still did not have any great trust in fatherhood, especially in the case of serfs. When, therefore, a feudal lord demanded from a town the return of a fugitive serf, it was required—for example, in Augsburg, Basle and Kaiserslautern—that the accused person’s status as serf should be sworn to by six of his nearest blood relations, and that they should all be relations on the mother’s side. (Maurer, Stadtverfassung, I, p. 381.)

Another relic of mother-right, which was still only in process of dying out, was the respect of the Germans for the female sex, which to the Romans was almost incomprehensible. Young girls of noble family were considered the most binding hostages in treaties with the Germans. The thought that their wives and daughters might be taken captive and carried into slavery was terrible to them and more than anything else fired their courage in battle; they saw in a woman something holy and prophetic, and listened to her advice even in the most important matters. Veleda, the priestess of the Bructeri-ans on the River Lippe, was the very soul of the whole Batavian rising in which Civilis, at the head of the Ger-mans and Belgae, shook the foundations of Roman rule in Gaul. In the home, the woman seems to have held undisputed sway, though, together with the old people and the children, she also had to do all the work, while the man hunted, drank, or idled about. That, at least, is what Tacitus says; but as he does not say who tilled the fields, and definitely declares that the serfs only paid tribute, but did not have to render labor dues, the bulk of the adult men must have had to do what little work the cultivation of the land required. The form of marriage, as already said, was a pairing marriage which was gradually approaching monogamy. It was not yet strict monogamy, as polygamy was permitted for the leading members of the tribe. In general, strict chastity was required of the girls (in contrast to the Celts), and Tacitus also speaks with special warmth of the sacredness of the marriage tie among the Germans. Adultery by the woman is the only ground for divorce mentioned by him. But there are many gaps here in his report, and it is also only too apparent that he is holding up a mirror of virtue before the dissipated Romans. One thing is certain: if the Germans were such paragons of virtue in their forests, it only required slight contact with the outside world to bring them down to the level of the average man in the rest of Europe. Amidst the Roman world, the last trace of moral austerity disappeared far more rapidly even than the German language. For proof, it is enough to read Gregory of Tours. That in the German primeval forests there could be no such voluptuous abandonment to all the refinements of sensuality as in Rome is obvious; the superiority of the Germans to the Roman world in this respect also is sufficiently great, and there is no need to en-dow them with an ideal continence in things of the flesh, such as has never yet been practiced by an entire nation.

Also derived from the gentle organization is the obligation to inherit the enmities as well as the friendships of the father or the relatives; likewise the wergeld, the fine for idling or injuring, in place of blood revenge. The wergeld, which only a generation ago was regarded as a specifically German institution, has now been shown to be general among hundreds of peoples as a milder form of the blood revenge originating out of the gentle organization. We find it, for example, among the Ameri-can Indians, who also regard hospitality as an obligation. Tacitus’ description of hospitality as practiced among the Germans (Germania, Ch. XXI) is identical almost to the details with that given by Morgan of his Indians.

The endless, burning controversy as to whether the Germans of Tacitus’ time had already definitely divided...
the land or not, and how the relevant passages are to be interpreted, now belongs to the past. No more words need be wasted in this dispute, since it has been established that among almost all peoples the cultivated land was tilled collectively by the gens, and later by communistic household communities such as were still found by Caesar among the Suevi, and that after this stage the land was allotted to individual families with periodical repartitions, which are shown to have survived as a local custom in Germany down to our day. If in the one hundred and fifty years between Caesar and Tacitus the Germans had changed from the collective cultivation of the land expressly attributed by Caesar to the Suevi (they had no divided or private fields whatever, he says) to individual cultivation with annual repartition of the land, that is surely progress enough. The transition from that stage to complete private property in land during such a short period and without any outside interference is a sheer impossibility. What I read in Tacitus is simply what he says in his own dry words: they change (or divide afresh) the cultivated land every year, and there is enough common land left over. It is the stage of agriculture and property relations in regard to the land which exactly corresponds to the gentle constitution of the Germans at that time.

I leave the preceding paragraph unchanged as it stood in the former editions. Meanwhile the question has taken another turn. Since Kovalevsky has shown (cf. pages 51–52) that the patriarchal household community was a very common, if not universal, intermediate form between the matriarchal communistic family and the modern isolated family, it is no longer a question of whether property in land is communal or private, which was the point at issue between Maurer and Waitz, but a question of the form of the communal property. There is no doubt at all that the Suevi in Caesar’s time not only owned the land in common, but also cultivated it in common for the common benefit. Whether the economic unit was the gens or the household community or a communistic kinship group intermediate between the two; or whether all three groups occurred according to the conditions of the soil—these questions will be in dispute for a long time to come. Kovalevsky maintains, however, that the conditions described by Tacitus presuppose the existence, not of the mark or village community, but of the household community and that the village community only develops out of the latter much later, as a result of the increase in population.

According to this view, the settlements of the Germans in the territory of which they were already in possession at the time of the Romans, and also in the territory which they later took from the Romans, were not composed of villages but of large household communities, which included several generations, cultivated an amount of land proportionate to the number of their members, and had common use with their neighbors of the surrounding waste. The passage in Tacitus about changing the cultivated land would then have to be taken in an agronomic sense: the community cultivated a different piece of land every year, and allowed the land cultivated the previous year to lie fallow or run completely to waste; the population being scanty, there was always enough waste left over to make any disputes about land unnecessary. Only in the course of centuries, when the number of members in the household communities had increased so much that a common economy was no longer possible under the existing conditions of production did the communities dissolve. The arable and meadow lands which had hitherto been common were divided in the manner familiar to us, first temporarily and then permanently, among the single households which were now coming into being, while forest, pasture land, and water remained common.

In the case of Russia this development seems to be a proved historical fact. With regard to Germany, and, secondarily, the other Germanic countries, it cannot be denied that in many ways this view provides a better explanation of the sources and an easier solution to difficulties than that held hitherto, which takes the village community back to the time of Tacitus. On the whole, the oldest documents, such as the Codex Laureshamensis, can be explained much better in terms of the household community than of the village community. On the other hand, this view raises new difficulties and new questions, which have still to be solved. They can only be settled by new investigations; but I cannot deny that in the case also of Germany, Scandinavia and England there is very great probability in favor of the intermediate form of the household community.

While in Caesar’s time the Germans had only just taken up or were still looking for settled abodes, in Tacitus’ time they already had a full century of settled life behind them; correspondingly, the progress in the production of the necessities of life is unmistakable. They live in log-houses; their clothing is still very much that of primitive people of the forests: coarse woolen mantles, skins; for women and notable people underclothing of linen. Their food is milk, meat, wild fruits, and, as Pliny adds, oatmeal porridge (still the Celtic national food in Ireland and Scotland). Their wealth consists in cattle and horses, but of inferior breed; the cows are small, poor in build and without horns; the horses are ponies, with very little speed. Money was used rarely and in small amounts; it was exclusively Roman. They did not work gold or silver, nor did they value it. Iron was rare, and, at least, among the tribes on the Rhine and the Danube, seems to have been almost entirely imported, not mined. Runic
writing (imitated from the Greek or Latin letters) was a purely secret form of writing, used only for religious magic. Human sacrifices were still offered. In short, we here see a people which had just raised itself from the middle to the upper stage of barbarism. But whereas the tribes living immediately on the Roman frontiers were hindered in the development of an independent metal and textile industry by the facility with which Roman products could be imported, such industry undoubtedly did develop in the northeast, on the Baltic. The fragments of weapons found in the Schleswig marshes—long iron sword, coat of mail, silver helmet, and so forth, together with Roman coins of the end of the second century—and the German metal objects distributed by the migrations, show quite a pronounced character of their own, even when they derive from an originally Roman model. Emigration into the civilized Roman world put an end to this native industry everywhere except in England. With what uniformity this industry arose and developed, can be seen, for example, in the bronze brooches; those found in Burgundy, Rumania and on the Sea of Azov might have come out of the same workshop as those found in England and Sweden, and are just as certainly of Germanic origin.

The constitution also corresponds to the upper stage of barbarism. According to Tacitus, there was generally a council of chiefs (principes), which decided minor matters, but prepared more important questions for decision by the assembly of the people; at the lower stage of barbarism, so far as we have knowledge of it, as among the Americans, this assembly of the people still comprises only the members of the gens, not yet of the tribe or of the confederacy of tribes. The chiefs (principes) are still sharply distinguished from the military leaders (duces) just as they are among the Iroquois; they already subsist partially on gifts of cattle, corn, etc., from the members of the tribe; as in America, they are generally elected from the same family. The transition to father-right favored, as in Greece and Rome, the gradual transformation of election into hereditary succession, and hence the rise of a noble family in each gens. This old so-called tribal nobility disappeared for the most part during the migrations or soon afterwards. The military leaders were chosen without regard to their descent, solely according to their ability. They had little power and had to rely on the force of example. Tacitus expressly states that the actual disciplinary authority in the army lay with the priests. The real power was in the hands of the assembly of the people. The king or the chief of the tribe presides; the people decide: “No” by murmurs; “Yes” by acclamation and clash of weapons. The assembly of the people is at the same time an assembly of justice; here complaints are brought forward and decided and sentences of death passed, the only capital crimes being cowardice, treason against the people, and unnatural lust. Also in the gentes and other subdivisions of the tribe all the members sit in judgment under the presidency of the chief, who, as in all the early German courts, can only have guided the proceedings and put questions; the actual verdict was always given among Germans everywhere by the whole community.

Confederacies of tribes had grown up since the time of Caesar; some of them already had kings; the supreme military commander was already aiming at the position of tyrant, as among the Greeks and Romans, and sometimes secured it. But these fortunate usurpers were not by any means absolute rulers; they were, however, already beginning to break the fetters of the gentile constitution. Whereas freed slaves usually occupied a subordinate position, since they could not belong to any gens, as favorites of the new kings they often won rank, riches and honors. The same thing happened after the conquest of the Roman Empire by these military leaders, who now became kings of great countries. Among the Franks, slaves and freedmen of the king played a leading part first at the court and then in the state; the new nobility was to a great extent descended from them.

One institution particularly favored the rise of kingship: the retinues. We have already seen among the American Indians how, side by side with the gentile constitution, private associations were formed to carry on wars independently. Among the Germans, these private associations had already become permanent. A military leader who had made himself a name gathered around him a band of young men eager for booty, whom he pledged to personal loyalty, giving the same pledge to them. The leader provided their keep, gave them gifts, and organized them on a hierarchic basis; a bodyguard and a standing troop for smaller expeditions and a regular corps of officers for operations on a larger scale. Weak as these retinues must have been, and as we in fact find them to be later—for example, under Odoacer in Italy—they were nevertheless the beginnings of the decay of the old freedom of the people and showed themselves to be such during and after the migrations. For in the first place they favored the rise of monarchic power. In the second place, as Tacitus already notes, they could only be kept together by continual wars and plundering expeditions. Plunder became an end in itself. If the leader of the retinue found nothing to do in the neighborhood, he set out with his men to other peoples where there was war and the prospect of booty. The German mercenaries who fought in great numbers under the Roman standard even against Germans were partly mobilized through these retinues. They already represent the first form of the system of Landsknechte, the shame and curse of the Ger-
Among those that are greatest the number is about 200,000, among the smallest, 50,000” (Diodorus Siculus, V, 75). On an average, therefore, among the Peucinians and others, who were so numerous that the area of Germania Magna (the Prussian government district that is, about 10,000 square miles—Ed.) Now, the Germania Magna had an area of 500,000 square kilometers in round figures (182 geographical square miles. (About 4,000 square miles—Ed.) Now, the Germania Magna of the Romans, which reached as far as the Vistula, had an area of 500,000 square kilometers in round figures. Reckoning the average number of each people at 100,000, the total population of Germania Magna would work out at 5,000,000—a considerable figure for a barbarian group of peoples, but, compared with our conditions ten persons to the square kilometer, or about 550 to the geographical square mile—extremely low. But that by no means exhausts the number of the Germans then living. We know that all along the Carpathians and down to the south of the Danube there were German peoples descended from Gothic tribes, such as the Bastarnians, Peucinians and others, who were so numerous that Pliny classes them together as the fifth main tribe of the Germans. As early as 180 B.C. they make their appearance as mercenaries in the service of the Macedonian King Perseus, and in the first years of Augustus, still advancing, they almost reached Adrianople. If we estimate these at only 1,000,000, the probable total number of the Germans at the beginning of our era must have been at least 6,000,000.

After permanent settlements had been founded in Germany, the population must have grown with increasing rapidity; the advances in industry we mentioned are in themselves proof of this. The objects found in the Schleswig marshes date from the third century, according to the Roman coins discovered with them. At this time, therefore, there was already a developed metal and textile industry on the Baltic, brisk traffic with the Roman Empire and a certain degree of luxury among the more wealthy—all signs of denser population. But also at this time begins the general attack by the Germans along the whole line of the Rhine, the Roman wall and the Danube, from the North Sea to the Black Sea—direct proof of the continual growth and outward thrust of the population. For three centuries the fight went on, during which the whole main body of the Gothic peoples (with the exception of the Scandinavian Goths and the Burgundians) thrust south-east, forming the left wing on the long front of attack, while in the center the High Germans (Hermiones) pushed forward down the upper Danube, and on the right wing the Ischovonians, now called Franks, advanced along the Rhine; the Ingovonians carried out the conquest of Britain. By the end of the fifth century an exhausted and bleeding Roman Empire lay helpless before the invading Germans.

In earlier chapters we were standing at the cradle of ancient Greek and Roman civilization. Now we stand at its grave. Rome had driven the leveling plane of its world rule over all the countries of the Mediterranean basin, and that for centuries. Except when Greek offered resistance, all natural languages had been forced to yield to a debased Latin; there were no more national differences, no more Gauls, Iberians, Ligurians, Noricans; all had become Romans. Roman administration and Roman law had everywhere broken up the old kinship groups, and with them the last vestige of local and national independence. The half-baked culture of Rome provided no substitute; it expressed no nationality, only the lack of nationality. The elements of new nations were present everywhere; the Latin dialects of the various provinces were becoming increasingly differentiated; the natural boundaries which once had made

25 The number assumed here is confirmed by a statement of Diodorus about the Celts of Gaul: “In Gaul dwell many peoples of varying strength. Among those that are greatest the number is about 200,000, among the smallest, 50,000” (Diodorus Siculus, V, 75). On an average, therefore, 125,000; it can undoubtedly be assumed that, owing to their higher stage of development, the single peoples among the Gauls were rather larger than among the Germans.
Italy, Gaul, Spain, Africa independent territories, were still there and still made themselves felt. But the strength was not there to fuse these elements into new nations; there was no longer a sign anywhere of capacity for development, or power of resistance, to say nothing of creative energy. The enormous mass of humanity in the whole enormous territory was held together by one bond only: the Roman state; and the Roman state had become in the course of time their worst enemy and oppressor. The provinces had annihilated Rome; Rome itself had become a provincial town like the rest—privileged, but no longer the ruler, no longer the hub of the world empire, not even the seat of the emperors or sub-emperors, who now lived in Constantinople, Treves, Milan. The Roman state had become a huge, complex machine, exclusively for bleeding its subjects, Taxes, state imposts and tributes of every kind pressed the mass of the people always deeper into poverty; the pressure was intensified until the exactions of governors, tax-collectors, and armies made it unbearable. That was what the Roman state had achieved with its world rule. It gave as the justification of its existence that it maintained order within the empire and protected it against the barbarians without. But its order was worse than the worst disorder, and the citizens whom it claimed to protect against the barbarians longed for the barbarians to deliver them.

Social conditions were no less desperate. Already in the last years of the republic the policy of Roman rule had been ruthlessly to exploit the provinces; the empire, far from abolishing this exploitation, had organized it. The more the empire declined, the higher rose the taxes and levies, the more shamelessly the officials robbed and extorted. The Romans had always been too occupied in ruling other nations to become proficient in trade and industry; it was only as usurers that they beat all who came before or after. What commerce had already existed and still survived was now ruined by official extortion; it struggled on only in the eastern, Greek part of the empire, which lies outside the present study. General impoverishment; decline of commerce, handicrafts and art; fall in the population; decay of the towns; relapse of agriculture to a lower level—such was the final result of Roman world rule.

Agriculture, always the decisive branch of production throughout the ancient world, was now more so than ever. In Italy, the enormous estates (latifundia) which, since the end of the republic, occupied 135 almost the whole country, had been exploited in two different ways. They had been used either as pastures, the population being displaced by sheep and cattle, which could be tended by a few slaves, or as country estates (villae), where large-scale horticulture was carried on with masses of slaves, partly as a luxury for the owner, partly for sale in the town markets. The great grazing farms had kept going and had probably even extended; the country estates and their gardens had been ruined through the impoverishment of their owners and the decay of the towns. The system of latifundia run by slave labor no longer paid; but at that time no other form of large-scale agriculture was possible. Small production had again become the only profitable form. One country estate after another was cut up into small lots, which were handed over either to tenants, who paid a fixed sum and had hereditary rights, or to partitarii, stewards rather than tenants, who received a sixth or even only a ninth of the year’s product in return for their labor. For the most part, however, these small lots of land were given out to coloni, who paid for them a definite yearly amount, were tied to the soil and could be sold together with their lot. True, they were not slaves, but neither were they free; they could not marry free persons, and their marriages with one another were not regarded as full marriages, but, like those of slaves, as mere concubinage (contubernium). They were the forerunners of the medieval serfs.

The slavery of classical times had outlived itself. Whether employed on the land in large-scale agriculture or in manufacture in the towns, it no longer yielded any satisfactory return—the market for its products was no longer there. But the small-scale agriculture and the small handicraft production to which the enormous production of the empire in its prosperous days was now shrunk had no room for numbers of slaves. Only for the domestic and luxury slaves of the wealthy was there still a place in society. But though it was dying out, slavery was still common enough to make all productive labor appear to be work for slaves, unworthy of free Romans—and everybody was a free Roman now. Hence, on the one side, increasing manumissions of the superfluous slaves who were now a burden; on the other, a growth in some parts in the numbers of the coloni, and in other parts of the declassed freemen (like the “poor whites” in the ex-slave states of America). Christianity is completely innocent of the gradual dying out of ancient slavery; it was itself actively involved in the system for centuries under the Roman Empire, and never interfered later with slave-trading by Christians: not with the Germans in the north, or with the Venetians in the Mediterranean, or with the later trade in Negroes. Slavery no longer paid; it was for that reason it died out. But in dying it left behind its poisoned sting—the stigma attaching to the productive labor of freemen. This was the blind alley from which the Roman world had no way out: slavery

26 According to Bishop Liutprand of Cremona, in the tenth century the chief industry of Verdun—in the Holy German Empire, observe—was the manufacture of eunuchs, who were exported at great profit to Spain for the Moorish harems.
was economically impossible, the labor of freemen was morally ostracized. The one could be the basic form of social production no longer; the other, not yet. Nothing could help here except a complete revolution.

Things were no better in the provinces. We have most material about Gaul. Here there was still a free small peasantry in addition to coloni. In order to be secured against oppression by officials, judges, and usurers, these peasants often placed themselves under the protection, the patronage, of a powerful person; and it was not only individuals who did so, but whole communities, so that in the fourth century the emperors frequently prohibited the practice. But what help was this protection to those who sought it? Their patron made it a condition that they should transfer to him the rights of ownership in their pieces of land, in return for which he guaranteed them the use of the land for their lifetime—a trick which the Holy Church took note of and in the ninth and tenth centuries lustily imitated, to the increase of God’s glory and its own lands. At this time, it is true, about the year 475, Bishop Salvianus of Marseilles still inveighs indignantly against such theft. He relates that oppression by Roman officials and great landlords had become so heavy that many “Romans” fled into districts already occupied by the barbarians, and that the Roman citizens settled there feared nothing so much as a return to Roman rule. That parents owing to their poverty often sold their children into slavery at this time is proved by a decree prohibiting the practice.

In return for liberating the Romans from their own state, the German barbarians took from them two-thirds of all the land and divided it among themselves. The division was made according to the gentile constitution. The conquerors being relatively few in number, large tracts of land were left undivided, as the property partly of the whole people, partly of the individual tribes and gentes. Within each gens the arable and meadow land was distributed by lot in equal portions among the individual households. We do not know whether reallocations of the land were repeatedly carried out at this time, but in any event they were soon discontinued in the Roman provinces and the individual lots became alienable private property, allodium. Woods and pastures remained undivided for common use; the provisions regulating their common use, and the manner in which the divided land was to be cultivated, were settled in accordance with ancient custom and by the decision of the whole community. The longer the gens remained settled in its village and the more the Germans and the Romans gradually merged, the more the bond of union lost its character of kinship and became territorial. The gens was lost in the mark community, in which, however, traces of its origin in the kinship of its members are often enough still visible. Thus, at least in those countries where the mark community maintained itself—northern France, England, Germany and Scandinavia—the gentile constitution changed imperceptibly into a local constitution and thus became capable of incorporation into the state. But it nevertheless retained that primitive democratic character which distinguishes the whole gentile constitution, and thus even in its later enforced degeneration and up to the most recent times it kept something of the gentile constitution alive, to be a weapon in the hands of the oppressed.

This weakening of the bond of blood in the gens followed from the degeneration of the organs of kinship also in the tribe and in the entire people as a result of their conquests. As we know, rule over subjugated peoples is incompatible with the gentile constitution. Here we can see this on a large scale. The German peoples, now masters of the Roman provinces, had to organize what they had conquered. But they could neither absorb the mass of Romans into the gentile bodies nor govern them through these bodies. At the head of the Roman local governing bodies, many of which continued for the time being to function, had to be placed a substitute for the Roman state, and this substitute could only be another state. The organs of the gentile constitution had to be transformed into state organs, and that very idly, for the situation was urgent. But the immediate representative of the conquering people was their military leader. To secure the conquered territory against attack from within and without, it was necessary to strengthen his power. The moment had come to transform the military leadership into kingship: the transformation was made.

Let us take the country of the Franks. Here the victorious Salian people had come into complete possession, not only of the extensive Roman state domains, but also of the very large tracts of land which had not been distributed among the larger and smaller district and mark communities, in particular all the larger forest areas. On his transformation from a plain military chief into the real sovereign of a country, the first thing which the king of the Franks did was to transform this property of the people into crown lands, to steal it from the people and to give it, outright or in fief, to his retainers. This retinue, which originally consisted of his personal following of warriors and of the other lesser military leaders, was presently increased not only by Romans—Romanized Gauls, whose education, knowledge of writing, familiarity with the spoken Romance language of the country and the written Latin language, as well as with the country’s laws, soon made them indispensable to him, but also by slaves, serfs and freedmen, who composed his court and from whom he chose his favorites. All these received their portions of the people’s land, at first generally in
the form of gifts, later of benefices, usually conferred, to begin with, for the king’s lifetime. Thus, at the expense of the people the foundation of a new nobility was laid. And that was not all. The wide extent of the kingdom could not be governed with the means provided by the old gentile constitution; the council of chiefs, even if it had not long since become obsolete, would have been unable to meet, and it was soon displaced by the permanent retinue of the king; the old assembly of the people continued to exist in name, but it also increasingly became a mere assembly of military leaders subordinate to the king, and of the new rising nobility. By the incessant civil wars and wars of conquest (the latter were particularly frequent under Charlemagne), the free land-owning peasants, the mass of the Frankish people, were reduced to the same state of exhaustion and penury as the Roman peasants in the last years of the Republic. Though they had originally constituted the whole army and still remained its backbone after the conquest of France, by the beginning of the ninth century they were so impoverished that hardly one man in five could go to the wars. The army of free peasants raised directly by the king was replaced by an army composed of the serving-men of the new nobles, including bondsmen, descendants of men who in earlier times had known no master save the king and still earlier no master at all, not even a king. The internal wars under Charlemagne’s successors, the weakness of the authority of the crown, and the corresponding excesses of the nobles (including the counts instituted by Charlemagne, who were now striving to make their office hereditary), had already brought ruin on the Frankish peasantry, and the ruin was finally completed by the invasions of the Norsemen. Fifty years after the death of Charlemagne, the Empire of the Franks lay as defenseless at the feet of the Norsemen as the Roman Empire, four hundred years earlier, had lain at the feet of the Franks.

Not only was there the same impotence against enemies from without, but there was almost the same social order or rather disorder within. The free Frankish peasants were in a plight similar to their predecessors, the Roman coloni. Plundered, and ruined by wars, they had been forced to put themselves under the protection of the new nobles or of the Church, the crown being too weak to protect them. But they had to pay dearly for it. Like the Gallic peasants earlier, they had to transfer their rights of property in land to their protecting lord and received the land back from him in tenancies of various and changing forms, but always only in return for services and dues. Once in this position of dependence, they gradually lost their personal freedom also; after a few generations most of them were already serfs. How rapid was the disappearance of the free peasantry’ is shown by Irminon’s records of the monastic possessions of the Abbey of Saint Germain des Pris, at that time near, now in, Paris. On the huge holdings of this Abbey, which were scattered in the surrounding country, there lived in Charlemagne’s time 2,788 households, whose members were almost without exception Franks with German names. They included 2,080 coloni, 35 lites (semi-free peasants—Ed.), 220 slaves, and only eight freehold tenants! The godless practice, as Salvianus had called it, by which the protecting lord had the peasant’s land transferred to himself as his own property, and only gave it back to the peasant for use during life, was now commonly employed by the Church against the peasants. The forced services now imposed with increasing frequency had had their prototype as much in the Roman angariae, compulsory labor for the state, as in the services provided by members of the German marks for bridge and road-making and other common purposes. To all appearances, therefore, after four hundred years, the mass of the people were back again where they had started.

But that only proved two things: first, that the social stratification and the distribution of property in the declining Roman Empire completely correspond to the level of agricultural and industrial production at that time, and had therefore been inevitable; secondly, that this level of production had neither risen nor fallen significantly during the following four centuries and had therefore with equal necessity again produced the same distribution of property and the same classes in the population. In the last centuries of the Roman Empire the town had lost its former supremacy over the country, and in the first centuries of German rule it had not regained it. This implies a low level of development both in agriculture and industry. This general situation necessarily produces big ruling landowners and a dependent small peasantry. How impossible it was to graft onto such a society either the Roman system of latifundia worked by slave-labor or the newer large-scale agriculture worked by forced services is proved by Charlemagne’s experiments with the famous imperial country estates (vil- lae). These experiments were gigantic in scope, but they left scarcely a trace. They were continued only by the monasteries, and only for them were they fruitful. But the monasteries were abnormal social bodies, founded on celibacy; they could produce exceptional results, but for that very reason necessarily continued to be exceptional themselves.

And yet progress was made during these four hundred years. Though at the end we find almost the same main classes as at the beginning, the human beings who formed these classes were different. Ancient slavery had gone, and so had the pauper freemen who despised work as only fit for slaves. Between the Roman colon-us and
the new bondsman had stood the free Frankish peasant. The “useless memories and aimless strife” of decadent Roman culture were dead and buried. The social classes of the ninth century had been formed, not in the rottenness of a decaying civilization, but in the birth-pangs of a new civilization. Compared with their Roman predecessors, the new breed, whether masters or servants, was a breed of men. The relation of powerful landowners and subject peasants which had meant for the ancient world the final ruin, from which there was no escape, was for them the starting-point of a new development. And, further, however unproductive these four centuries appear, one great product they did leave: the modern nationalities, the new forms and structures through which west European humanity was to make coming history. The Germans had, in fact, given Europe new life, and therefore the break-up of the states in the Germanic period ended, not in subjugation by the Norsemen and Saracens, but in the further development of the system of benefices and protection into feudalism, and in such an enormous increase of the population that scarcely two centuries later the severe blood-letting of the Crusades was borne without injury.

But what was the mysterious magic by which the Germans breathed new life into a dying Europe? Was it some miraculous power innate in the Germanic race, such as our chauvinist historians romance about? Not a bit of it. The Germans, especially at that time, were a highly gifted Aryan tribe, and in the full vigor of development. It was not, however, their specific national qualities which rejuvenated Europe, but simply—their barbarism, their gentile constitution.

Their individual ability and courage, their sense of freedom, their democratic instinct which in everything of public concern felt itself concerned; in a word, all the qualities which had been lost to the Romans and were alone capable of forming new states and making new nationalities grow out of the slime of the Roman world—what else were they than the characteristics of the barbarian of the upper stage, fruits of his gentile constitution?

If they recast the ancient form of monogamy, moderated the supremacy of the man in the family, and gave the woman a higher position than the classical world had ever known, what made them capable of doing so if not their barbarism, their gentile customs, their living heritage from the time of mother-right?

If in at least three of the most important countries, Germany, northern France and England, they carried over into the feudal state a genuine piece of gentile constitution, in the form of mark communities, thus giving the oppressed class, the peasants, even under the harshest medieval servitude, a local center of solidarity and a means of resistance such as neither the slaves of classical times nor the modern proletariat found ready to their hand—to what was this due, if not to their barbarism, their purely barbarian method of settlement in kinship groups?

Lastly: they were able to develop and make universal the milder form of servitude they had practiced in their own country, which even in the Roman Empire increasingly displaced slavery: a form of servitude which, as Fourier first stressed, gives to the bondsman the means of their gradual liberation as a class (“fournit aux cultivateurs des moyens d’affranchissement collectif et progressif”); a form of servitude which thus stands high above slavery, where the only possibility is the immediate release, without any transitional stage, of individual slaves (abolition of slavery by successful rebellion is unknown to antiquity), whereas the medieval serfs gradually won their liberation as a class. And to what do we owe this if not to their barbarism, thanks to which they had not yet reached the stage of fully developed slavery, neither the labor slavery of the classical world nor the domestic slavery of the Orient?

All the vigorous and creative life which the Germans infused into the Roman world was barbarism. Only barbarians are able to rejuvenate a world in the throes of collapsing civilization. And precisely the highest stage of barbarism, to which and in which the Germans worked their way upwards before the migrations, was the most favorable for this process. That explains everything.

9. Barbarism and Civilization

We, have now traced the dissolution of the gentile constitution in the three great instances of the Greeks, the Romans, and the Germans. In conclusion, let us examine the general economic conditions which already undermined the gentle organization of society at the upper stage of barbarism and with the coming of civilization overthrew it completely. Here we shall need Marx’s Capital as much as Morgan’s book.

Arising in the middle stage of savagery, further developed during its upper stage, the gens reaches its most flourishing period, so far as our sources enable us to judge, during the lower stage of barbarism. We begin therefore with this stage.

Here—the American Indians must serve as our example—we find the gentile constitution fully formed. The tribe is now grouped in several gentes, generally two. With the increase in population, each of these original gentes splits up into several daughter gentes, their mother gens now appearing as the phratry. The tribe itself breaks up into several tribes, in each of which we find again, for the most part, the old gentes. The related tribes, at least in some cases, are united in a confederacy.

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This simple organization suffices completely for the social conditions out of which it sprang. It is nothing more than the grouping natural to those conditions, and it is capable of settling all conflicts that can arise within a society so organized. War settles external conflicts; it may end with the annihilation of the tribe, but never with its subjugation. It is the greatness, but also the limitation, of the gentile constitution that it has no place for ruler and ruled. Within the tribe there is as yet no difference between rights and duties; the question whether participation in public affairs, in blood revenge or atonement, is a right or a duty, does not exist for the Indian; it would seem to him just as absurd as the question whether it was a right or a duty to sleep, eat, or hunt. A division of the tribe or of the gens into different classes was equally impossible. And that brings us to the examination of the economic basis of these conditions.

The population is extremely sparse; it is dense only at the tribe’s place of settlement, around which lie in a wide circle first the hunting grounds and then the protective belt of neutral forest, which separates the tribe from others. The division of labor is purely primitive, between the sexes only. The man fights in the wars, goes hunting and fishing, procures the raw materials of food and the tools necessary for doing so. The woman looks after the house and the preparation of food and clothing, cooks, weaves, sews. They are each master in their own sphere: the man in the forest, the woman in the house. Each is owner of the instruments which he or she makes and uses: the man of the weapons, the hunting and fishing implements, the woman of the household gear. The housekeeping is communal among several and often many families. What is made and used in common is common property—the house, the garden, the long-boat. Here therefore, and here alone, there still exists in actual fact that “property created by the owner’s labor” which in civilized society is an ideal fiction of the jurists and economists, the last lying legal pretense by which modern capitalist property still bolsters itself up.

But humanity did not everywhere remain at this stage. In Asia they found animals which could be tamed and, when once tamed, bred. The wild buffalo-cow had to be hunted; the tame buffalo-cow gave a calf yearly and milk as well. A number of the most advanced tribes—the Aryans, Semites, perhaps already also the Turanians—now made their chief work first the taming of cattle, later their breeding and tending only. Pastoral tribes separated themselves from the mass of the rest of the barbarians: the first great social division of labor. The pastoral tribes produced not only more necessities of life than the other barbarians, but different ones. They possessed the advantage over them of having not only milk, milk products and greater supplies of meat, but also skins, wool, goat-hair, and spun and woven fabrics, which became more common as the amount of raw material increased. Thus for the first time regular exchange became possible. At the earlier stages only occasional exchanges can take place; particular skill in the making of weapons and tools may lead to a temporary division of labor. Thus in many places undoubted remains of workshops for the making of stone tools have been found, dating from the later Stone Age. The artists who here perfected their skill probably worked for the whole community, as each special handicraftsman still does in the gentle communities in India. In no case could exchange arise at this stage except within the tribe itself, and then only as an exceptional event. But now, with the differentiation of pastoral tribes, we find all the conditions ripe for exchange between branches of different tribes and its development into a regular established institution. Originally tribes exchanged with tribe through the respective chiefs of the gens; but as the herds began to pass into private ownership, exchange between individuals became more common, and, finally, the only form. Now the chief article which the pastoral tribes exchanged with their neighbors was cattle; cattle became the commodity by which all other commodities were valued and which was everywhere willingly taken in exchange for them—in short, cattle acquired a money function and already at this stage did the work of money. With such necessity and speed, even at the very beginning of commodity exchange, did the need for a money commodity develop.

Horticulture, probably unknown to Asiatic barbarians of the lower stage, was being practiced by them in the middle stage at the latest, as the forerunner of agriculture. In the climate of the Turanian plateau, pastoral life is impossible without supplies of fodder for the long and severe winter. Here, therefore, it was essential that land should be put under grass and corn cultivated. The same is true of the steppes north of the Black Sea. But when once corn had been grown for the cattle, it also soon became food for men. The cultivated land still remained tribal property; at first it was allotted to the gens, later by the gens to the household communities and finally to individuals for use. The users may have had certain rights of possession, but nothing more.

Of the industrial achievements of this stage, two are particularly important. The first is the loom, the second the smelting of metal ores and the working of metals. Copper and tin and their alloy, bronze, were by far the most important. Bronze provided serviceable tools and weapons, though it could not displace stone tools; only

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27 Especially on the north-west coast of America—see Bancroft. Among the Haidahs on Queen Charlotte Islands there are households with as many as 700 persons under one roof. Among the Nootkas whole tribes used to live under one roof.
See from this that to emancipate woman and make her the equal of the man is and remains an impossibility so long as the woman is shut out from social productive labor and restricted to private domestic labor. The emancipation of woman will only be possible when woman can take part in production on a large, social scale, and domestic work no longer claims anything but an insignificant amount of her time. And only now has that become possible through modern large-scale industry, which does not merely permit of the employment of female labor over a wide range, but positively demands it, while it also tends towards ending private domestic labor by changing it more and more into a public industry.

The man now being actually supreme in the house, the last barrier to his absolute supremacy had fallen. This autocracy was confirmed and perpetuated by the overthrow of mother-right, the introduction of father-right, and the gradual transition of the pairing marriage into monogamy. But this tore a breach in the old gentle order; the single family became a power, and its rise was a menace to the gens.

The next step leads us to the upper stage of barbarism, the period when all civilized peoples have their Heroic Age: the age of the iron sword, but also of the iron plow-share and ax. Iron was now at the service of man, the last and most important of all the raw materials which played a historically revolutionary role—until the potato. Iron brought the tillage of large areas, the clearing of wide tracts of virgin forest; iron gave to the handicraftsman tools so hard and sharp that no stone, no other known metal could resist them. All this came gradually; the first iron was often even softer than bronze. Hence stone weapons only disappeared slowly; not merely in the Hildebrandslied, but even as late as Hastings in 1066, stone axes were still used for fighting. But progress could not now be stopped; it went forward with fewer checks and greater speed. The town, with its houses of stone or brick, encircled by stone walls, towers and ramparts, became the central seat of the tribe or the confederacy of tribes—an enormous architectural advance, but also a sign of growing danger and need for protection. Wealth increased rapidly, but as the wealth of individuals. The products of weaving, metal-work and the other handicrafts, which were becoming more and more differentiated, displayed growing variety and skill. In addition to corn, leguminous plants and fruit, agriculture now provided wine and oil, the preparation of which had been learned. Such manifold activities were no longer within the scope of one and the same individual; the second great division of labor took place: handicraft separated from agriculture. The continuous increase of production and simultaneously of the productivity of labor heightened the value of human labor-power. Slavery, which
during the preceding period was still in its beginnings and sporadic, now becomes an essential constituent part of the social system; slaves no longer merely help with production—they are driven by dozens to work in the fields and the workshops. With the splitting up of production into the two great main branches, agriculture and handicrafts, arises production directly for exchange, commodity production; with it came commerce, not only in the interior and on the tribal boundaries, but also already overseas. All this, however, was still very undeveloped; the precious metals were beginning to be the predominant and general money commodity, but still uncoined, exchanging simply by their naked weight.

The distinction of rich and poor appears beside that of freemen and slaves—with the new division of labor, a new cleavage of society into classes. The inequalities of property among the individual heads of families break up the old communal household communities wherever they had still managed to survive, and with them the common cultivation of the soil by and for these communities. The cultivated land is allotted for use to single families, at first temporarily, later permanently. The transition to full private property is gradually accomplished, parallel with the transition of the pairing marriage into monogamy. The single family is becoming the economic unit of society.

The denser population necessitates closer consolidation both for internal and external action. The confederacy of related tribes becomes everywhere a necessity, and soon also their fusion, involving the fusion of the separate tribal territories into one territory of the nation. The military leader of the people, res, basileus, thiudans—becomes an indispensable, permanent official. The assembly of the people takes form, wherever it did not already exist. Military leader, council, assembly of the people are the organs of gentile society developed into military democracy—military, since war and organization for war have now become regular functions of national life. Their neighbors’ wealth excites the greed of peoples who already see in the acquisition of wealth one of the main aims of life. They are barbarians: they think it more easy and in fact more honorable to get riches by pillage than by work. War, formerly waged only in revenge for injuries or to extend territory that had grown too small, is now waged simply for plunder and becomes a regular industry. Not without reason the bristling battlements stand menacingly about the new fortified towns; in the moat at their foot yawns the grave of the gentile constitution, and already they rear their towers into civilization. Similarly in the interior. The wars of plunder increase the power of the supreme military leader and the subordinate commanders; the customary election of their successors from the same families is gradually transformed, especially after the introduction of father-right, into a right of hereditary succession, first tolerated, then claimed, finally usurped; the foundation of the hereditary monarchy and the hereditary nobility is laid. Thus the organs of the gentile constitution gradually tear themselves loose from their roots in the people, in gens, phratry, tribe, and the whole gentile constitution changes into its opposite: from an organization of tribes for the free ordering of their own affairs it becomes an organization for the plundering and oppression of their neighbors; and correspondingly its organs change from instruments of the will of the people into independent organs for the domination and oppression of the people. That, however, would never have been possible if the greed for riches had not split the members of the gens into rich and poor, if “the property differences within one and the same gens had not transformed its unity of interest into antagonism between its members” (Marx), if the extension of slavery had not already begun to make working for a living seem fit only for slaves and more dishonorable than pillage.

We have now reached the threshold of civilization. Civilization opens with a new advance in the division of labor. At the lowest stage of barbarism men produced only directly for their own needs; any acts of exchange were isolated occurrences, the object of exchange merely some fortuitous surplus. In the middle stage of barbarism we already find among the pastoral peoples a possession in the form of cattle which, once the herd has attained a certain size, regularly produces a surplus over and above the tribe’s own requirements, leading to a division of labor between pastoral peoples and backward tribes without herds, and hence to the existence of two different levels of production side by side with one another and the conditions necessary for regular exchange. The upper stage of barbarism brings us the further division of labor between agriculture and handicrafts, hence the production of a continually increasing portion of the products of labor directly for exchange, so that exchange between individual producers assumes the importance of a vital social function. Civilization consolidates and intensifies all these existing divisions of labor, particularly by sharpening the opposition between town and country (the town may economically dominate the country, as in antiquity, or the country the town, as in the middle ages), and it adds a third division of labor, peculiar to itself and of decisive importance: it creates a class which no longer concerns itself with production, but only with the exchange of the products—the merchants. Hitherto whenever classes had begun to form, it had always been exclusively in the field of production; the persons engaged in production were separated into those who directed and those who executed, or else into large-scale and small-scale producers. Now for the first...
time a class appears which, without in any way participating in production, captures the direction of production as a whole and economically subjugates the producers; which makes itself into an indispensable middleman between any two producers and exploits them both. Under the pretext that they save the producers the trouble and risk of exchange, extend the sale of their products to distant markets and are therefore the most useful class of the population, a class of parasites comes into being, "genuine social icbneumons," who, as a reward for their actually very insignificant services, skim all the cream off production at home and abroad, rapidly amass enormous wealth and correspondingly social influence, and for that reason receive under civilization ever higher honors and ever greater control of production, until at last they also bring forth a product of their own—the periodical trade crises.

At our stage of development, however, the young merchants had not even begun to dream of the great destiny awaiting them. But they were growing and making themselves indispensable, which was quite sufficient. And with the formation of the merchant class came also the development of metallic money, the minted coin, a new instrument for the domination of the non-producer over the producer and his production. The commodity of commodities had been discovered, that which holds all other commodities hidden in itself, the magic power which can change at will into everything desirable and desired. The man who had it ruled the world of production—and who had more of it than anybody else? The merchant. The worship of money was safe in his hands. He took good care to make it clear that, in face of money, all commodities, and hence all producers of commodities, must prostrate themselves in adoration in the dust. He proved practically that all other forms of wealth fade into mere semblance beside this incarnation of wealth as such. Never again has the power of money shown itself in such primitive brutality and violence as during these days of its youth. After commodities had begun to sell for money, loans and advances in money came also, and with them interest and usury. No legislation of later times so utterly and ruthlessly delivers over the debtor to the usurious creditor as the legislation of ancient Athens and ancient Rome—and in both cities it arose spontaneously, as customary law, without any compulsion other than the economic.

Alongside wealth in commodities and slaves, alongside wealth in money, there now appeared wealth in land also. The individuals’ rights of possession in the pieces of land originally allotted to them by gens or tribe had now become so established that the land was their hereditary property. Recently they had striven above all to secure their freedom against the rights of the gentle community over these lands, since these rights had become for them a fetter. They got rid of the fetter—but soon afterwards of their new landed property also. Full, free ownership of the land meant not only power, uncurtailed and unlimited, to possess the land; it meant also the power to alienate it. As long as the land belonged to the gens, no such power could exist. But when the new landed proprietor shook off once and for all the fetters laid upon him by the prior right of gens and tribe, he also cut the ties which had hitherto inseparably attached him to the land. Money, invented at the same time as private property in land, showed him what that meant. Land could now become a commodity; it could be sold and pledged. Scarcely had private property in land been introduced than the mortgage was already invented (see Athens). As hetaerism and prostitution dog the heels of monogamy, so from now onwards mortgage dogs the heels of private land ownership. You asked for full, free alienable ownership of the land and now you have got it—“tu l’as voulu, Georges Dandin.”

With trade expansion, money and usury, private property in land and mortgages, the concentration and centralization of wealth in the hands of a small class rapidly advanced, accompanied by an increasing impoverishment of the masses and an increasing mass of impoverishment. The new aristocracy of wealth, in so far as it had not been identical from the outset with the old hereditary aristocracy, pushed it permanently into the background (in Athens, in Rome, among the Germans). And simultaneous with this division of the citizens into classes according to wealth there was an enormous increase, particularly in Greece, in the number of slaves,28 whose forced labor was the foundation on which the superstructure of the entire society was reared.

Let us now see what had become of the gentle constitution in this social upheaval. Confronted by the new forces in whose growth it had had no share, the gentle constitution was helpless. The necessary condition for its existence was that the members of a gens or at least of a tribe were settled together in the same territory and were its sole inhabitants. That had long ceased to be the case. Every territory now had a heterogeneous population belonging to the most varied gentes and tribes; everywhere slaves, protected persons and aliens lived side by side with citizens. The settled conditions of life which had only been achieved towards the end of the middle stage of barbarism were broken up by the repeated shifting and changing of residence under the pressure of trade, alternation of occupation and changes in the ownership of the

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28For the number of slaves in Athens, see above, page 107. In Corinth, at the height of its power, the number of slaves was 460,000; in Aegina, 470,000. In both cases, ten times the population of free citizens.
THE THREE main forms in which the state arises on the ruins of the gentile constitution have been examined in detail above. Athens provides the purest, classic form; here the state springs directly and mainly out of the class oppositions which develop within gentile society itself. In Rome, gentile society becomes a closed aristocracy in the midst of the numerous plebs who stand outside it, and have duties but no rights; the victory of plebs breaks up the old constitution based on kinship, and erects on its ruins the state, into which both the gentile aristocracy and the plebs are soon completely absorbed. Lastly, in the case of the German conquerors of the Roman Empire, the state springs directly out of the conquest of large foreign territories, which the gentile constitution provides no means of governing. But because this conquest involves neither a serious struggle with the original population nor a more advanced division of labor; because conquerors and conquered are almost on the same level of economic development, and the economic basis of society remains therefore as before—for these reasons the gentile constitution is able to survive for many centuries in the altered, territorial form of the mark constitution and even for a time to rejuvenate itself in a feebler shape in the later noble and patrician families, and indeed in peasant families, as in Ditmarschen. 29

The state is therefore by no means a power imposed on society from without; just as little is it “the reality of the moral idea,” “the image and the reality of reason,” as Hegel maintains. Rather, it is a product of society at a particular stage of development; it is the admission that this society has involved itself in insoluble self-contradiction and is cleft into irreconcilable antagonisms which it is powerless to exorcise. But in order that these antagonisms, classes with conflicting economic interests, shall not consume themselves and society in fruitless struggle, a power, apparently standing above society, has become necessary to moderate the conflict and keep it within the bounds of “order”; and this power, arisen out of society, but placing itself above it and increasingly alienating itself from it, is the state.

In contrast to the old gentile organization, the state is distinguished firstly by the grouping of its members on a territorial basis. The old gentile bodies, formed and held together by ties of blood, had, as we have seen, become inadequate largely because they presupposed that the gentile members were bound to one particular locality, whereas this had long ago ceased to be the case. The territory was still there, but the people had become mobile. The territorial division was therefore taken as the starting point and the system introduced by which citizens exercised their public rights and duties where they took up residence, without regard to gens or tribe. This organization of the citizens of the state according to domicile is common to all states. To us, therefore, this organization seems natural; but, as we have seen, hard and protracted struggles were necessary before it was able in Athens and Rome to displace the old organi-

29 The first historian who had at any rate an approximate conception of the nature of the gens was Niebuhr, and for this he had to thank his acquaintance with the Ditmarechen families, though he was overhasty in transferring their characteristics to the gens.
The second distinguishing characteristic is the institution of a public force which is no longer immediately identical with the people’s own organization of themselves as an armed power. This special public force is needed because a self-acting armed organization of the people has become impossible since their cleavage into classes. The slaves also belong to the population: as against the 365,000 slaves, the 90,000 Athenian citizens constitute only a privileged class. The people’s army of the Athenian democracy confronted the slaves as an aristocratic public force, and kept them in check; but to keep the citizens in check as well, a police-force was needed, as described above. This public force exists in every state; it consists not merely of armed men, but also of material appendages, prisons and coercive institutions of all kinds, of which gentile society knew nothing. It may be very insignificant, practically negligible, in societies with still undeveloped class antagonisms and living in remote areas, as at times and in places in the United States of America. But it becomes stronger in proportion as the class antagonisms within the state become sharper and as adjoining states grow larger and more populous. It is enough to look at Europe today, where class struggle and rivalry in conquest have brought the public power to a pitch that it threatens to devour the whole of society and even the state itself.

In order to maintain this public power, contributions from the state citizens are necessary—taxes. These were completely unknown to gentile society. We know more than enough about them today. With advancing civilization, even taxes are not sufficient; the state draws drafts on the future, contracts loans, state debts. Our old Europe can tell a tale about these, too.

In possession of the public power and the right of taxation, the officials now present themselves as organs of society standing above society. The free, willing respect accorded to the organs of the gentile constitution is not enough for them, even if they could have it. Representatives of a power which estranges them from society, they have to be given prestige by means of special decrees, which invest them with a peculiar sanctity and inviolability. The lowest police officer of the civilized state has more “authority” than all the organs of gentile society put together; but the mightiest prince and the greatest statesman or general of civilization might envy the humblest of the gentile chiefs the unforced and unquestioned respect accorded to him. For the one stands in the midst of society; the other is forced to pose as something outside and above it.

As the state arose from the need to keep class antagonisms in check, but also arose in the thick of the fight between the classes, it is normally the state of the most powerful, economically ruling class, which by its means becomes also the politically ruling class, and so acquires new means of holding down and exploiting the oppressed class. The ancient state was, above all, the state of the slave-owners for holding down the slaves, just as the feudal state was the organ of the nobility for holding down the peasant serfs and bondsmen, and the modern representative state is the instrument for exploiting wage-labor by capital. Exceptional periods, however, occur when the warring classes are so nearly equal in forces that the state power, as apparent mediator, acquires for the moment a certain independence in relation to both. This applies to the absolute monarchy of the seventeenth and eighteenth centuries, which balances the nobility and the bourgeoisie against one another; and to the Bonapartism of the First and particularly of the Second French Empire, which played off the proletariat against the bourgeoisie and the bourgeoisie against the proletariat. The latest achievement in this line, in which ruler and ruled look equally comic, is the new German Empire of the Bismarckian nation; here the capitalists and the workers are balanced against one another and both of them fleeced for the benefit of the decayed Prussian cabbage Junkers.

Further, in most historical states the rights conceded to citizens are graded on a property basis, whereby it is directly admitted that the state is an organization for the protection of the possessing class against the non-possessing class. This is already the case in the Athenian and Roman property classes. Similarly in the medieval feudal state, in which the extent of political power was determined by the extent of landownership. Similarly, also, in the electoral qualifications in modern parliamentary states. This political recognition of property differences is, however, by no means essential. On the contrary, it marks a low stage in the development of the state. The highest form of the state, the democratic republic, which in our modern social conditions becomes more and more an unavoidable necessity and is the form of state in which alone the last decisive battle between proletariat and bourgeoisie can be fought out—the democratic republic no longer officially recognizes differences of property. Wealth here employs its power indirectly, but all the more surely. It does this in two ways: by plain corruption of officials, of which America is the classic example, and by an alliance between the government and the stock exchange, which is effected all the more easily the higher the state debt mounts and the more the joint-stock companies concentrate in their hands not only transport but also production itself, and themselves have their own center in the stock exchange. In addition to America, the latest French republic illustrates this strikingly, and honest little Switzerland has also given a cred-
Civilization is, therefore, according to the above analysis, the stage of development in society at which the division of labor, the exchange between individuals arising from it, and the commodity production which combines them both, come to their full growth and revolutionizes the whole of previous society.

At all earlier stages of society production was essentially collective, just as consumption proceeded by direct distribution of the products within larger or smaller communistic communities. This collective production was very limited; but inherent in it was the producers’ control over their process of production and their product. They knew what became of their product: they consumed it; it did not leave their hands. And so long as production remains on this basis, it cannot grow above the heads of the producers nor raise up incorporeal alien powers against them, as in civilization is always and inevitably the case. But the division of labor slowly insinuates itself into this process of production. It undermines the collectivity of production and appropriation, elevates appropriation by individuals into the general rule, and thus creates exchange between individuals—how it does so, we have examined above. Gradually commodity production becomes the dominating form.

With commodity production, production no longer for use by the producers but for exchange, the products necessarily change hands. In exchanging his product, the producer surrenders it; he no longer knows what becomes of it. When money, and with money the merchant, steps in as intermediary between the producers, the process of exchange becomes still more complicated, the final fate of the products still more uncertain. The merchants are numerous, and none of them knows what the other is doing. The commodities already pass not only from hand to hand; they also pass from market to market; the producers have lost control over the total production within their own spheres, and the merchants have not gained it. Products and production become subjects of chance.

But chance is only the one pole of a relation whose other pole is named “necessity.” In the world of nature, where chance also seems to rule, we have long since demonstrated in each separate field the inner necessity and law asserting itself in this chance. But what is true of the natural world is true also of society. The more a social activity, a series of social processes, becomes too powerful for men’s conscious control and grows above their heads, and the more it appears a matter of pure chance, then all the more surely within this chance the laws peculiar to it and inherent in it assert themselves as if by natural necessity. Such laws also govern the chances of commodity production and exchange. To the individuals producing or exchanging, they appear as alien, at first often unrecognized, powers, whose nature Must first be laboriously investigated and established. These economic laws of commodity production are modified with the various stages of this form of production; but in general the whole period of civilization is dominated by them. And still to this day the product rules the producer; still to this day the total production of society is regulated, not by a jointly devised plan, but by blind laws, which manifest themselves with elemental violence, in the final instance in the storms of the periodical trade crises.

We saw above how at a fairly early stage in the development of production, human labor-power obtains the capacity of producing a considerably greater product than is required for the maintenance of the producers, and how this stage of development was in the main the
same as that in which division of labor and exchange between individuals arise. It was not long then before the great "truth" was discovered that man also can be a commodity; that human energy can be exchanged and put to use by making a man into a slave. Hardly had men begun to exchange than already they themselves were being exchanged. The active became the passive, whether the men liked it or not.

With slavery, which attained its fullest development under civilization, came the first great cleavage of society into an exploiting and an exploited class. This cleavage persisted during the whole civilized period. Slavery is the first form of exploitation, the form peculiar to the ancient world; it is succeeded by serfdom in the middle ages, and wage-labor in the more recent period. These are the three great forms of servitude, characteristic of the three great epochs of civilization; open, and in recent times disguised, slavery always accompanies them.

The stage of commodity production with which civilization begins is distinguished economically by the introduction of (1) metal money, and with it money capital, interest and usury; (2) merchants, as the class of mediaries between the producers; (3) private ownership of land, and the mortgage system; (4) slave labor as the dominant form of production. The form of family corresponding to civilization and coming to definite supremacy with it is monogamy, the domination of the man over the woman, and the single family as the economic unit of society. The central link in civilized society is the state, which in all typical periods is without exception the state of the ruling class, and in all cases continues to be essentially a machine for holding down the oppressed, exploited class. Also characteristic of civilization is the establishment of a permanent opposition between town and country as basis of the whole social division of labor; and, further, the introduction of wills, whereby the owner of property is still able to dispose over it even when he is dead. This institution, which is a direct affront to the old gentile constitution, was unknown in Athens until the time of Solon; in Rome it was introduced early, though we do not know the date. Among the Germans it was the clerics who introduced it, in order that there might be nothing to stop the pious German from leaving his legacy to the Church. With this as its basic constitution, civilization achieved things of which gentile society was not even remotely capable. But it achieved them by setting in motion the lowest instincts and passions in man and developing them at the expense of all his other abilities. From its first day to this, sheer greed was the driving spirit of civilization; wealth and again wealth and once more wealth, wealth, not of society, but of the single scurvy individual—here was its one and final aim. If at the same time the progressive development of science and a repeated flowering of supreme art dropped into its lap, it was only because without them modern wealth could not have completely realized its achievements.

Since civilization is founded on the exploitation of one class by another class, its whole development proceeds in a constant contradiction. Every step forward in production is at the same time a step backwards in the position of the oppressed class, that is, of the great majority. Whatever benefits some necessarily injures the others; every fresh emancipation of one class is necessarily a new oppression for another class. The most striking proof of this is provided by the introduction of machinery, the effects of which are now known to the whole world. And if among the barbarians, as we saw, the distinction between rights and duties could hardly be drawn, civilization makes the difference and antagonism between them clear even to the dullest intelligence by giving one class practically all the rights and the other class practically all the duties.

But that should not be: what is good for the ruling class must also be good for the whole of society, with which the ruling-class identifies itself. Therefore the more civilization advances, the more it is compelled to cover the evils it necessarily creates with the cloak of love and charity, to palliate them or to deny them—in short, to introduce a conventional hypocrisy which was unknown to earlier forms of society and even to the first stages of civilization, and which culminates in the pronouncement: the exploitation of the oppressed class is carried on by the exploiting class simply and solely in the interests of the exploited class itself; and if the exploited class cannot see it and even grows rebellious, that is the basest ingratitude to its benefactors, the exploiters.

And now, in conclusion, Morgan’s judgment of civi-

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30 The second part of Lassalle’s System der erworbenen Rechte (System of Acquired Rights) turns chiefly on the proposition that the Roman testament is as old as Rome itself, that there was never in Roman history “a time when there were no testaments”; that, on the contrary, the testament originated in pre-Roman times out of the cult of the dead. Lassalle, as a faithful Hegelian of the old school, derives the provisions of Roman law not from the social relations of the Romans, but from the “speculative concept” of the human will, and so arrives at this totally unhistorical conclusion. This is not to be wondered at in a book which comes to the conclusion, on the ground of the same speculative concept, that the transfer of property was a purely secondary matter in Roman inheritance. Lassalle not only believes in the illusions of the Roman jurists, particularly of the earlier periods; he outdoes them.

31 Originally intended to place the brilliant criticism of civilization which is found scattered through the work of Charles Fourier beside that of Morgan and my own. Unfortunately, I have not the time. I will only observe that Fourier already regards monogamy and private property in land as the chief characteristics of civilization, and that he calls civilization a war of the rich against the poor. We also find already in his work the profound recognition that in all societies which are imperfect and split into antagonisms single families (les families incohérentes) are the economic units.
App. | A Recently Discovered 
| Case of Group Marriage |
1892 | From Die Neue Zeit
Vol. XI, No. I, pp. 373–75

Since it has recently become fashionable among certain rationalistic ethnographers to deny the existence of group marriage, the following report is of interest; I translate it from the Russkiye Vyedomosti, Moscow, October 14, 1892 (Old Style). Not only group marriage, i.e., the right of mutual sexual intercourse between a number of men and a number of women, is expressly affirmed to be in full force, but a form of group marriage which closely follows the punaluan marriage of the Hawaiians, the most developed and classic phase of group marriage. While the typical punaluan family consists of a number of brothers (own and collateral), who are married to a number of own and collateral sisters, we here find on the island of Sakhalin that a man is married to all the wives of his brothers and to all the sisters of his wife, which means, seen from the woman’s side, that his wife may freely practice sexual intercourse with the brothers of her husband and the husbands of her sisters. It therefore differs from the typical form of punaluan marriage only in the fact that the brothers of the husband and the husbands of the sisters are not necessarily the same persons.

Engels: Origins of the Family... 235

It should further be observed that this report again confirms what I said in The Origin of the Family, 4th edition, pp. 28–29: that group marriage does not look at all like what our brother-obsessed philistine imagines; that the partners in group marriage do not lead in public the same kind of lascivious life as he practices in secret, but that this form of marriage, at least in the instances still known to occur today, differs in practice from a loose pairing marriage or from polygamy only in the fact that custom permits sexual intercourse in a number of cases where otherwise it would be severely punished. That the actual exercise of these rights is gradually dying out only proves that this form of marriage is itself destined to die out, which is further confirmed by its infrequency.

The whole description, moreover, is interesting because it again demonstrates the similarity, even the identity in their main characteristics, of the social institutions of primitive peoples at approximately the same stage of development. Most of what the report states about these mongoloids on the island of Sakhalin also holds for the Dravidian tribes of India, the South Sea Islanders at the time of their discovery, and the American Indians. The report runs:

“At the session of October 10 (Old Style; October 22, New Style) of the Anthropological Section of the Society of the Friends of Natural Science, N.A. Yanchuk read an interesting communication from Mr. Sternberg on the Gilyaks, a little-studied tribe on the island of Sakhalin, who are at the cultural level of savagery. The Gilyaks are acquainted neither with agriculture nor with pottery; they procure their food chiefly by hunting and fishing; they warm water in wooden vessels by throwing in heated stones, etc. Of particular interest are their institutions relating to the family and to the gens. The Gilyak addresses as father, not only his own natural father, but also all the brothers of his father; all the wives of these brothers, as well as all the sisters of his mother, he addresses as his mothers; the children of all these ‘fathers’ and ‘mothers’ he addresses as his brothers and sisters. This system of address also exists, as is well known, among the Iroquois and other Indian tribes of North America, as also among some tribes of India. But whereas in these cases it has long since ceased to correspond to the actual conditions, among the Gilyaks it serves to designate a state still valid today. To this day every Gilyak has the rights of a husband in regard to the wives of his brothers and to the sisters of his wife; at any rate, the exercise of these rights is not regarded as impermissible. These survivals of group marriage on the basis of the gens are reminiscent of the well-known punaluan marriage, which still existed in the Sand-
The gens of a Gilyak consists of all—nearer and more remote, real and nominal—brothers of his father, of their fathers and mothers of the children of his brothers, and of his own children.

One can readily understand that a gens so constituted may comprise an enormous number of people. Life within the gens proceeds according to the following principles. Marriage within the gens is unconditionally prohibited. When a Gilyak dies, his wife passes by decision of the gens to one of his brothers, own or nominal. The gens provides for the maintenance of all of its members who are unable to work. 'We have no poor,' said a Gilyak to the writer. 'Whoever is in need, is fed by the khal (gens).’ The members of the gens are further united by common sacrificial ceremonies and festivals, a common burial place, etc.

'The gens guarantees the life and security of its members against attacks by non-gentiles; the means of repression used is blood-revenge, though under Russian rule the practice has very much declined. Women are completely excepted from gentile blood-revenge. In some very rare cases the gens adopts members of other gentes. It is a general rule that the property of a deceased member may not pass out of the gens; in this respect the famous provision of the Twelve Tables holds literally among the Gilyaks: si suos heredes non habet, gentiles familia habento—if he has no heirs of his own, the members of the gens shall inherit. No important event takes place in the life of a Gilyak without participation by the gens. Not very long ago, about one or two generations, the oldest gentile member was the head of the community, the starosta of the gens; today the functions of the chief elder of the gens are restricted almost solely to presiding over religious ceremonies. The gentes are often dispersed among widely distant places, but even when separated the members of a gens still remember one another and continue to give one another hospitality, and to provide mutual assistance and protection, etc. Except under the most extreme necessity, the Gilyak never leaves the fellow-members of his gens or the graves of his gens. Gentile society has impressed a very definite stamp on the whole mental life of the Gilyaks, on their character, their customs and institutions. The habit of common discussion and decision on all matters, the necessity of continually taking an active part in all questions affecting the members of the gens, the solidarity of blood-revenge, the fact of being compelled and accustomed to live together with ten or more like himself in great tents (yurtas), and to be, in short, always with other people—all this has given the Gilyak a sociable and open character. The Gilyak is extraordinarily hospitable; he loves to entertain guests and to come himself as a guest. This admirable habit of hospitality is especially prominent in times of distress. In a bad year, when a Gilyak has nothing for himself or for his dogs to eat, he does not stretch out his hand for alms, but confidently seeks hospitality, and is fed, often for a considerable time.

'Among the Gilyaks of Sakhalin crimes from motives of personal gain practically never occur. The Gilyak keeps his valuables in a storehouse, which is never locked. He has such a keen sense of shame that if he is convicted of a disgraceful act, he immediately goes into the forest and hangs himself. Murder is very rare, and is hardly ever committed except in anger, never from intentions of gain. In his dealings with other people, the Gilyak shows himself honest, reliable, and conscientious.

'Despite their long subjection to the Manchurians, now become Chinese, and despite the corrupting influence of the settlement of the Amur district, the Gilyaks still preserve in their moral character many of the virtues of a primitive tribe. But the fate awaiting their social order cannot be averted. One or two more generations, and the Gilyaks on the mainland will have been completely Russianized, and together with the benefits of culture they will also acquire its defects. The Gilyaks on the island of Sakhalin, being more or less remote from the centers of Russian settlement, have some prospect of preserving their way of life unspoiled rather longer. But among them, too, the influence of their Russian neighbors is beginning to make itself felt. The Gilyaks come into the villages to trade, they go to Nikolaievsk to look for work; and every Gilyak who returns from such work to his home brings with him the same atmosphere which the Russian worker takes back from the town into his village. And at the same time, working in the town, with its chances and changes of fortune, destroys more and more that primitive equality which is such a prominent feature of the artlessly simple economic life of these peoples.

'Mr. Sternberg's article, which also contains information about their religious views and customs and their legal institutions, will appear unabridged in the Etnograficheskoye Obozrenic (Ethnographical Review).
The Economic Bill of Rights

Franklin D. Roosevelt

(Jan. 11, 1944)

It is our duty now to begin to lay the plans and determine the strategy for the winning of a lasting peace and the establishment of an American standard of living higher than ever before known. We cannot be content, no matter how high that general standard of living may be, if some fraction of our people — whether it be one-third or one-fifth or one-tenth — is ill-fed, ill-clothed, ill-housed, and insecure.

This Republic had its beginning, and grew to its present strength, under the protection of certain inalienable political rights — among them the right of free speech, free press, free worship, trial by jury, freedom from unreasonable searches and seizures. They were our rights to life and liberty.

As our nation has grown in size and stature, however — as our industrial economy expanded — these political rights proved inadequate to assure us equality in the pursuit of happiness.

We have come to a clear realization of the fact that true individual freedom cannot exist without economic security and independence. “Necessitous men are not free men.” People who are hungry and out of a job are the stuff of which dictatorships are made.

In our day these economic truths have become accepted as self-evident. We have accepted, so to speak, a second Bill of Rights under which a new basis of security and prosperity can be established for all — regardless of station, race, or creed.

Among these are:

- The right to a useful and remunerative job in the industries or shops or farms or mines of the nation;
- The right to earn enough to provide adequate food and clothing and recreation;
- The right of every farmer to raise and sell his products at a return which will give him and his family a decent living;
- The right of every businessman, large and small, to trade in an atmosphere of freedom from unfair competition and domination by monopolies at home or abroad;
- The right of every family to a decent home;
- The right to adequate medical care and the opportunity to achieve and enjoy good health;
- The right to adequate protection from the economic fears of old age, sickness, accident, and unemployment;
- The right to a good education.

All of these rights spell security. And after this war is won we must be prepared to move forward, in the implementation of these rights, to new goals of human happiness and well-being.

America’s own rightful place in the world depends in large part upon how fully these and similar rights have been carried into practice for our citizens.

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1 J2 How. 152: “Necessitous men,” says the Lord Chancellor, in Vernon v Bethell, 2 Eden 113 (1762), “are not, truly speaking, free men; but, to answer a present emergency, will submit to any terms that the crafty may impose on them.”
**Wage Labor and Capital**

**Karl Marx**

(1849)

**Introduction to Karl Marx’s Wage Labor and Capital by Frederick Engels**

This pamphlet first appeared in the form of a series of leading articles in the *Neue Rheinische Zeitung*, beginning on April 4th, 1849. The text is made up of lectures delivered by Marx before the German Workingmen’s Club of Brussels in 1847. The series was never completed. The promise “to be continued,” at the end of the editorial in Number 269 of the newspaper, remained unfulfilled in consequence of the precipitous events of that time: the invasion of Hungary by the Russians [Tsarist troops invaded Hungary in 1849 to keep the Austrian Hapsburg dynasty in power], and the uprisings in Dresden, Iserloh, Elberfeld, the Palatinate, and in Baden [Spontaneous uprisings in Germany in May–July 1849, supporting the Imperial Constitution which were crushed in mid-July], which led to the suppression of the paper on May 19th, 1849. And among the papers left by Marx no manuscript of any continuation of these articles has been found.

“Wage-Labor and Capital” has appeared as an independent publication in several editions, the last of which was issued by the Swiss Co-operative Printing Association, in Hottingen-Zurich, in 1884. Hitherto, the several editions have contained the exact wording of the original articles. But since at least 10,000 copies of the present edition are to be circulated as a propaganda tract, the question necessarily forced itself upon me, would Marx himself, under these circumstance, have approved of an unaltered literal reproduction of the original?

Marx, in the ’40s, had not yet completed his criticism of political economy. This was not done until toward the end of the fifties. Consequently, such of his writings as were published before the first installment of his *Critique of Political Economy* was finished, deviate in some points from those written after 1859, and contain expressions and whole sentences which, viewed from the standpoint of his later writings, appear inexact, and even incorrect. Now, it goes without saying that in ordinary editions, intended for the public in general, this earlier standpoint, as a part of the intellectual development of the author, has its place; that the author as well as the public, has an indisputable right to an unaltered reprint of these older writings. In such a case, I would not have dreamed of changing a single word in it. But it is otherwise when the edition is destined almost exclusively for the purpose of propaganda. In such a case, Marx himself would unquestionably have brought the old work, dating from 1849, into harmony with his new point of view, and I feel sure that I am acting in his spirit when I insert in this edition the few changes and additions which are necessary in order to attain this object in all essential point.

Therefore, I say to the reader at once: this pamphlet is not as Marx wrote it in 1849, but approximately as Marx would have written it in 1891. Moreover, so many copies of the original text are in circulation, that these will suffice until I can publish it again unaltered in a complete edition of Marx’s works, to appear at some future time.

My alterations centre about one point. According to the original reading, the worker sells his labor for wages, which he receives from the capitalist; according to the present text, he sells his labor-power. And for this change, I must render an explanation: to the workers, in order that they may understand that we are not quibbling or word-juggling, but are dealing here with one of the most important points in the whole range of political economy; to the bourgeois, in order that they may convince themselves how greatly the uneducated workers, who can be easily made to grasp the most difficult economic analyses, excel our supercilious “cultured” folk, for whom such ticklish problems remain insoluble their whole life long.

Classical political economy1 borrowed from the industrial practice the current notion of the manufacturer, that he buys and pays for the labor of his employees. This conception had been quite serviceable for the business purposes of the manufacturer, his bookkeeping and price

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1“By classical political economy, I understand that economy which, since the time of W. Petty, has investigated the real relations of production in bourgeois society, in contradistinction to vulgar economy, which deals with appearances only, ruminates without ceasing on the materials long since provided by scientific economy, and there seeks plausible explanations of the most obtrusive phenomena for bourgeois daily use, but for the rest confines itself to systematizing in a pedantic way, and proclaiming for everlasting truths, trite ideas held by the self-complacent bourgeoisie with regard to their own world, to them the best of all possible worlds.” (Karl Marx, *Capital*, Vol.1, p.93f.)
calculation. But naively carried over into political economy, it there produced truly wonderful errors and confusions.

Political economy finds it an established fact that the prices of all commodities, among them the price of the commodity which it calls “labor,” continually change; that they rise and fall in consequence of the most diverse circumstances, which often have no connection whatsoever with the production of the commodities themselves, so that prices appear to be determined, as a rule, by pure chance. As soon, therefore, as political economy stepped forth as a science, it was one of its first tasks to search for the law that hid itself behind this chance, which apparently determined the prices of commodities, and which in reality controlled this very chance. Among the prices of commodities, fluctuating and oscillating, now upward, now downward, the fixed central point was searched for around which these fluctuations and oscillations were taking place. In short, starting from the price of commodities, political economy sought for the value of commodities as the regulating law, by means of which all price fluctuations could be explained, and to which they could all be reduced in the last resort.

And so, classical political economy found that the value of a commodity was determined by the labor incorporated in it and requisite to its production. With this explanation, it was satisfied. And we, too, may, for the present, stop at this point. But, to avoid misconceptions, I will remind the reader that today this explanation has become wholly inadequate. Marx was the first to investigate thoroughly into the value-forming quality of labor and to discover that not all labor which is apparently, or even really, necessary to the production of a commodity, imparts under all circumstances to this commodity a magnitude of value corresponding to the quantity of labor used up. If, therefore, we say today in short, with economists like Ricardo, that the value of a commodity is determined by the labor necessary to its production, we always imply the reservations and restrictions made by Marx. Thus much for our present purpose; further information can be found in Marx’s Critique of Political Economy, which appeared in 1859, and in the first volume of Capital.

But, as soon as the economists applied this determination of value by labor to the commodity “labor”, they fell from one contradiction into another. How is the value of “labor” determined? By the necessary labor embodied in it. But how much labor is embodied in the labor of a laborer of a day a week, a month, a year. If labor is the measure of all values, we can express the “value of labor” only in labor. But we know absolutely nothing about the value of an hour’s labor, if all that we know about it is that it is equal to one hour’s labor. So, thereby, we have not advanced one hair’s breadth nearer our goal; we are constantly turning about in a circle.

Classical economics, therefore, essayed another turn. It said: the value of a commodity is equal to its cost of production. But, what is the cost of production of “labor”? In order to answer this question, the economists are forced to strain logic just a little. Instead of investigating the cost of production of labor itself, which, unfortunately, cannot be ascertained, they now investigate the cost of production of the laborer. And this latter can be ascertained. It changes according to time and circumstances, but for a given condition of society, in a given locality, and in a given branch of production, it, too, is given, at least within quite narrow limits. We live today under the regime of capitalist production, under which a large and steadily growing class of the population can live only on the condition that it works for the owners of the means of production—tools, machines, raw materials, and means of subsistence—in return for wages. On the basis of this mode of production, the laborer’s cost of production consists of the sum of the means of subsistence (or their price in money) which on the average are requisite to enable him to work, to maintain in him this capacity for work, and to replace him at his departure, by reason of age, sickness, or death, with another laborer—that is to say, to propagate the working class in required numbers.

Let us assume that the money price of these means of subsistence averages 3 shillings a day. Our laborer gets, therefore, a daily wage of 3 shillings from his employer. For this, the capitalist lets him work, say, 12 hours a day. Our capitalist, moreover, calculates somewhat in the following fashion: Let us assume that our laborer (a machinist) has to make a part of a machine which he finishes in one day. The raw material (iron and brass in the necessary prepared form) costs 20 shillings. The consumption of coal by the steam-engine, the wear-and-tear of this engine itself, of the turning-lathe, and of the other tools with which our laborer works, represent, for one day and one laborer, a value of 1 shilling. The wages for one day are, according to our assumption, 3 shillings. This makes a total of 24 shillings for our piece of a machine.

But, the capitalist calculates that, on an average, he will receive for it a price of 27 shillings from his customers, or 3 shillings over and above his outlay.

Whence do they 3 shillings pocketed by the capitalist come? According to the assertion of classical political economy, commodities are in the long run sold at their values, that is, they are sold at prices which correspond to the necessary quantities of labor contained in them. The average price of our part of a machine—27 shillings—would therefore equal its value, i.e., equal the amount
of labor embodied in it. But, of these 27 shillings, 21 shillings were values were values already existing before the machinist began to work; 20 shillings were contained in the raw material, 1 shilling in the fuel consumed during the work and in the machines and tools used in the process and reduced in their efficiency to the value of this amount. There remains 6 shillings, which have been added to the value of the raw material. But, according to the supposition of our economists, themselves, these 6 shillings can arise only from the labor added to the raw material by the laborer. His 12 hours’ labor has created, according to this, a new value of 6 shillings. Therefore, the value of his 12 hours’ labor would be equivalent to 6 shillings. So we have at last discovered what the “value of labor” is.

“Hold on there!” cries our machinist. “Six shillings? But I have received only 3 shillings! My capitalist swears high and day that the value of my 12 hours’ labor is no more than 3 shillings, and if I were to demand 6, he’d laugh at me. What kind of a story is that?”

If before this we got with our value of labor into a vicious circle, we now surely have driven straight into an insoluble contradiction. We searched for the value of labor, and we found more than we can use. For the laborer, the value of the 12 hours’ labor is 3 shillings; for the capitalist, it is 6 shillings, of which he pays the workingman 3 shillings as wages, and pockets the remaining 3 shilling himself. According to this, labor has not one but two values, and, moreover, two very different values!

As soon as we reduce the values, now expressed in money, to labor-time, the contradiction becomes even more absurd. By the 12 hours’ labor, a new value of 6 shillings is created. Therefore, in 6 hours, the new value created equals 3 shillings—the amount which the laborer receives for 12 hours’ labor. For 12 hours’ labor, the workingman receives, as an equivalent, the product of 6 hours’ labor. We are, thus, forced to one of two conclusions: either labor has two values, one of which is twice as large as the other, or 12 equals 6! In both cases, we get pure absurdities. Turn and twist as we may, we will not get out of this contradiction as long as we speak of the buying and selling of “labor” and of the “value of labor.” And just so it happened to the political economists. The last offshoot of classical political economy—the Ricardian school—was largely wrecked on the insolubility of this contradiction. Classical political economy had run itself into a blind alley. The man who discovered the way out of this blind alley was Karl Marx.

What the economists had considered as the cost of production of “labor” was really the cost of production, not of “labor,” but of the living laborer himself. And what this laborer sold to the capitalist was not his labor.

“So soon as his labor really begins,” says Marx, “it ceases to belong to him, and therefore can no longer be sold by him.”

At the most, he could sell his future labor—i.e., assume the obligation of executing a certain piece of work in a certain time. But, in this way, he does not sell labor (which would first have to be performed), but not for a stipulated payment he places his labor-power at the disposal of the capitalist for a certain time (in case of time-wages), or for the performance of a certain task (in case of piece-wages). He hires out or sells his labor-power. But this labor-power has grown up with his person and is inseparable from it. Its cost of production, therefore, coincides with his own cost of production; what the economist called the cost of production of labor is really the cost of production of the laborer, and therewith of his labor-power. And, thus, we can also go back from the cost of production of labor-power to the value of labor-power; and determine the quantity of social labor that is required for the production of a labor-power of a given quantity, as Marx has done in the chapter on “The Buying and Selling of Labor Power.” [Capital, Vol.I]

Now what takes place after the worker has sold his labor-power, i.e., after he has placed his labor-power at the disposal of the capitalist for stipulated-wages—whether time-wages or piece-wages? The capitalist takes the laborer into his workshop or factory, where all the articles required for the work can be found—raw materials, auxiliary materials (coal, dyestuffs, etc.), tools, and machines. Here, the worker begins to work. His daily wages are, as above, 3 shillings, and it makes no difference whether he earns them as day-wages or piece-wages. We again assume that in 12 hours the worker adds by his labor a new value of 6 shillings to the value of the raw materials consumed, which new value the capitalist realizes by the sale of the finished piece of work. Out of this new value, he pays the worker his 3 shillings, and the remaining 3 shillings he keeps for himself. If, now, the laborer creates in 12 hours a value of 6 shilling, in 6 hours he creates a value of 3 shillings. Consequently, after working 6 hours for the capitalist, the laborer has returned to him the equivalent of the 3 shillings received as wages. After 6 hours’ work, both are quits, neither one owing a penny to the other.

“Hold on there!” now cries out the capitalist. “I have hired the laborer for a whole day, for 12 hours. But 6 hours are only half-a-day. So work along lively there until the other 6 hours are at an end—only then will we be even.” And, in fact, the laborer has to submit to the conditions of the contract upon which he entered of “his own free will,” and according to which he bound himself to work 12 whole hours for a product of labor which cost only 6 hours’ labor.

Similarly with piece-wages. Let us suppose that in...
12 hours our worker makes 12 commodities. Each of these costs a shilling in raw materials and wear-and-tear, and is sold for 2.5 shillings. On our former assumption, the capitalist gives the laborer 0.25 of a shilling for each piece, which makes a total of 3 shillings for 12 pieces. To earn this, the worker requires 12 hours. The capitalist receives 30 shillings for the 12 pieces; deducting 24 shillings for raw materials and wear-and-tear, there remains 6 shillings, of which he pays 3 shillings in wages and pockets the remaining 3. Just as before! Here, also, the worker labors 6 hours for himself—i.e., to replace his wages (half-an-hour in each of the 12 hours), and 6 hours for the capitalist.

The rock upon which the best economists were stranded, as long as they started out from the value of labor, vanishes as soon as we make our starting-point the value of labor-power. Labor-power is, in our present-day capitalist society, a commodity like every other commodity, but yet a very peculiar commodity. It has, namely, the peculiarity of being a value-creating force, the source of value, and, moreover, when properly treated, the source of more value than it possesses itself. In the present state of production, human labor-power not only produces in a day a greater value than it itself possesses and costs; but with each new scientific discovery, with each new technical invention, there also rises the surplus of its daily production over its daily cost, while as a consequence there diminishes that part of the working-day in which the laborer produces the equivalent of his day’s wages, and, on the other hand, lengthens that part of the working-day in which he must present labor gratis to the capitalist.

And this is the economic constitution of our entire modern society: the working class alone produces all values. For value is only another expression for labor, that expression, namely, by which is designated, in our capitalist society of today, the amount of socially necessary labor embodied in a particular commodity. But, these values produced by the workers do not belong to the workers. They belong to the owners of the raw materials, machines, tools, and money, which enable them to buy the labor-power of the working class. Hence, the working class gets back only a part of the entire mass of products produced by it. And, as we have just seen, the other portion, which the capitalist class retains, and which it has to share, at most, only with the landlord class, is increasing with every new discovery and invention, while the share which falls to the working class (per capita) rises but little and very slowly, or not at all, and under certain conditions it may even fall.

But, these discoveries and inventions which supplant one another with ever-increasing speed, this productiveness of human labor which increases from day to day to unheard-of proportions, at last gives rise to a conflict, in which present capitalistic economy must go to ruin. On the one hand, immeasurable wealth and a superfluidity of products with which the buyers cannot cope. On the other hand, the great mass of society proletarianized, transformed into wage-laborers, and thereby disabled from appropriating to themselves that superfluidity of products. The splitting up of society into a small class, immoderately rich, and a large class of wage-laborers devoid of all property, brings it about that this society smothers in its own superfluidity, while the great majority of its members are scarcely, or not at all, protected from extreme want.

This condition becomes every day more absurd and more unnecessary. It must be gotten rid of; it can be gotten rid of. A new social order is possible, in which the class differences of today will have disappeared, and in which—perhaps after a short transition period, which, though somewhat deficient in other respects, will in any case be very useful morally—there will be the means of life, of the enjoyment of life, and of the development and activity of all bodily and mental faculties, through the systematic use and further development of the enormous productive powers of society, which exists with us even now, with equal obligation upon all to work. And that the workers are growing ever more determined to achieve this new social order will be proven on both sides of the ocean on this dawning May Day, and on Sunday, May 3rd. [Engels is referring to the May Day celebrations of 1891]

FREDERICK ENGELS
London, April 30, 1891.

1. Preliminary

From various quarters we have been reproached for neglecting to portray the economic conditions which form the material basis of the present struggles between classes and nations. With set purpose we have hitherto touched upon these conditions only when they forced themselves upon the surface of the political conflicts.

It was necessary, beyond everything else, to follow the development of the class struggle in the history of our own day, and to prove empirically, by the actual and daily newly created historical material, that with the subjuga-

tion of the working class, accomplished in the days of February and March, 1848, the opponents of that class—the bourgeois republicans in France, and the bourgeois and peasant classes who were fighting feudal absolutism throughout the whole continent of Europe—were simultaneously conquered; that the victory of the “moderate republic” in France sounded at the same time the fall of the nations which had responded to the February rev-
olution with heroic wars of independence; and finally that, by the victory over the revolutionary workingmen, Europe fell back into its old double slavery, into the English-Russian slavery. The June conflict in Paris, the fall of Vienna, the tragicomedy in Berlin in November 1848, the desperate efforts of Poland, Italy, and Hungary, the starvation of Ireland into submission—these were the chief events in which the European class struggle between the bourgeoisie and the working class was summed up, and from which we proved that every revolutionary uprising, however remote from the class struggle its object might appear, must of necessity fail until the revolutionary working class shall have conquered—that every social reform must remain a Utopia until the proletarian revolution and the feudalistic counter-revolution have been pitted against each other in a world-wide war.

In our presentation, as in reality, Belgium and Switzerland were tragicomic caricature genre pictures in the great historic tableau; the one the model State of the bourgeois monarchy, the other the model State of the bourgeois republic; both of them, States that flatter themselves to be just as free from the class struggle as from the European revolution.

But now, after our readers have seen the class struggle of the year 1848 develop into colossal political proportions, it is time to examine more closely the economic relations, down to the socialist wonder-workers and the unrecognized political geniuses, in which divided Germany is even richer than in duodecimo princelings. We therefore proceed to the consideration of the first problem.

2. What are Wages? How are they Determined?

If several workmen were to be asked: "How much wages do you get?", one would reply, "I get two shillings a day", and so on. According to the different branches of industry in which they are employed, they would mention different sums of money that they receive from their respective employers for the completion of a certain task; for example, for weaving a yard of linen, or for setting a page of type. Despite the variety of their statements, they would all agree upon one point: that wages are the amount of money which the capitalist pays for a certain period of work or for a certain amount of work.

Consequently, it appears that the capitalist buys their labour with money, and that for money they sell him their labour. But this is merely an illusion. What they actually sell to the capitalist for money is their labour-power. This labour-power the capitalist buys for a day, a week, a month, etc. And after he has bought it, he uses it up by letting the worker labour during the stipulated time. With the same amount of money with which the capitalist has bought their labour-power (for example, with two shillings) he could have bought a certain amount of sugar or of any other commodity. The two shillings with which he bought 20 pounds of sugar is the price of the 20 pounds of sugar. The two shillings with which he bought 12 hours’ use of labour-power, is the price of 12 hours’ labour. Labour-power, then, is a commodity, no more, no less so than is the sugar. The first is measured by the clock, the other by the scales.

Their commodity, labour-power, the workers exchange for the commodity of the capitalist, for money, and, moreover, this exchange takes place at a certain ratio. So much money for so long a use of labour-power. For 12 hours’ weaving, two shillings. And these two shillings, do they not represent all the other commodities which I can buy for two shillings? Therefore, actually, the worker has exchanged his commodity, labour-power, for commodities of all kinds, and, moreover, at a certain ratio. By giving him two shillings, the capitalist has given him so much meat, so much clothing, so much wood, light, etc., in exchange for his day’s work. The two shillings therefore express the relation in which labour-power is exchanged for other commodities, the exchange-value of labour-power.

The exchange value of a commodity estimated in money is called its price. Wages therefore are only a special name for the price of labour-power, and are usually called the price of labour; it is the special name for the price of this peculiar commodity, which has no other repository than human flesh and blood.

Let us take any worker; for example, a weaver. The
capitalist supplies him with the loom and yarn. The weaver applies himself to work, and the yarn is turned into cloth. The capitalist takes possession of the cloth and sells it for 20 shillings, for example. Now are the wages of the weaver a share of the cloth, of the 20 shillings, of the product of the work? By no means. Long before the cloth is sold, perhaps long before it is fully woven, the weaver has received his wages. The capitalist, then, does not pay his wages out of the money which he will obtain from the cloth, but out of money already on hand. Just as little as loom and yarn are the product of the weaver to whom they are supplied by the employer, just so little are the commodities which he receives in exchange for his commodity — labour-power — his product. It is possible that the employer found no purchasers at all for the cloth. It is possible that he did not get even the amount of the wages by its sale. It is possible that he sells it very profitably in proportion to the weaver’s wages. But all that does not concern the weaver. With a part of his existing wealth, of his capital, the capitalist buys the labour-power of the weaver in exactly the same manner as, with another part of his wealth, he has bought the raw material — the yarn — and the instrument of labour — the loom. After he has made these purchases, and among them belongs the labour-power necessary to the production of the cloth he produces only with raw materials and instruments of labour belonging to him. For our good weaver, too, is one of the instruments of labour, and being in this respect on a par with the loom, he has no more share in the product (the cloth), or in the price of the product, than the loom itself has.

Wages, therefore, are not a share of the worker in the commodities produced by himself. Wages are that part of already existing commodities with which the capitalist buys a certain amount of productive labour-power.

Consequently, labour-power is a commodity which its possessor, the wage-worker, sells to the capitalist. Why does he sell it? It is in order to live.

But the putting of labour-power into action — i.e., the work — is the active expression of the labourer’s own life. And this life activity he sells to another person in order to secure the necessary means of life. His life-activity, therefore, is but a means of securing his own existence. He works that he may keep alive. He does not count the labour itself as a part of his life; it is rather a sacrifice of his life. It is a commodity that he has auctioned off to another. The product of his activity, therefore, is not the aim of his activity. What he produces for himself is not the silk that he weaves, not the gold that he draws up the mining shaft, not the palace that he builds. What he produces for himself is wages; and the silk, the gold, and the palace are resolved for him into a certain quantity of necessaries of life, perhaps into a cotton jacket, into copper coins, and into a basement dwelling. And the labourer who for 12 hours long, weaves, spins, bores, turns, builds, shovels, breaks stone, carries hods, and so on — is this 12 hours’ weaving, spinning, boring, turning, building, shovelling, stone-breaking, regarded by him as a manifestation of life, as life? Quite the contrary. Life for him begins where this activity ceases, at the table, at the tavern, in bed. The 12 hours’ work, on the other hand, has no meaning for him as weaving, spinning, boring, and so on, but only as earnings, which enable him to sit down at a table, to take his seat in the tavern, and to lie down in a bed. If the silk-worm’s object in spinning were to prolong its existence as caterpillar, it would be a perfect example of a wage-worker.

Labour-power was not always a commodity (merchandise). Labour was not always wage-labour, i.e., free labour. The slave did not sell his labour-power to the slave-owner, any more than the ox sells his labour to the farmer. The slave, together with his labour-power, was sold to his owner once for all. He is a commodity that can pass from the hand of one owner to that of another. He himself is a commodity, but his labour-power is not his commodity. The serf sells only a portion of his labour-power. It is not he who receives wages from the owner of the land; it is rather the owner of the land who receives a tribute from him. The serf belongs to the soil, and to the lord of the soil he brings its fruit. The free labourer, on the other hand, sells his very self, and that by fractions. He auctions off eight, 10, 12, 15 hours of his life, one day like the next, to the highest bidder, to the owner of raw materials, tools, and the means of life — i.e., to the capitalist. The labourer belongs neither to an owner nor to the soil, but eight, 10, 12, 15 hours of his daily life belong to whomsoever buys them. The worker leaves the capitalist, to whom he has sold himself, as often as he chooses, and the capitalist discharges him as often as he sees fit, as soon as he no longer gets any use, or not the required use, out of him. But the worker, whose only source of income is the sale of his labour-power, cannot leave the whole class of buyers, i.e., the capitalist class, unless he gives up his own existence. He does not belong to this or that capitalist, but to the capitalist class; and it is for him to find his man — i.e., to find a buyer in this capitalist class.

Before entering more closely upon the relation of capital to wage-labour, we shall present briefly the most general conditions which come into consideration in the determination of wages.

Wages, as we have seen, are the price of a certain commodity, labour-power. Wages, therefore, are determined by the same laws that determine the price of every other commodity. The question then is, How is the price of a commodity determined?
3. By what is the price of a commodity determined?

By the competition between buyers and sellers, by the relation of the demand to the supply, of the call to the offer. The competition by which the price of a commodity is determined is threefold.

The same commodity is offered for sale by various sellers. Whoever sells commodities of the same quality most cheaply, is sure to drive the other sellers from the field and to secure the greatest market for himself. The sellers therefore fight among themselves for the sales, for the market. Each one of them wishes to sell, and to sell as much as possible, and if possible to sell alone, to the exclusion of all other sellers. Each one sells cheaper than the other. Thus there takes place a competition among the sellers which forces down the price of the commodities offered by them.

But there is also a competition among the buyers; this upon its side causes the price of the proffered commodities to rise.

Finally, there is competition between the buyers and the sellers: these wish to purchase as cheaply as possible, those to sell as dearly as possible. The result of this competition between buyers and sellers will depend upon the relations between the two above-mentioned camps of competitors — i.e., upon whether the competition in the army of sellers is stronger. Industry leads two great armies into the field against each other, and each of these again is engaged in a battle among its own troops in its own ranks. The army among whose troops there is less fighting carries of the victory over the opposing host.

Let us suppose that there are 100 bales of cotton in the market and at the same time purchasers for 1,000 bales of cotton. In this case, the demand is 10 times greater than the supply. Competition among the buyers, then, will be very strong; each of them tries to get hold of one bale, if possible, of the whole 100 bales. This example is no arbitrary supposition. In the history of commerce we have experienced periods of scarcity of cotton when some capitalists united together and sought to buy up not 100 bales, but the whole cotton supply of the world. In the given case, then, one buyer seeks to drive the others from the field by offering a relatively higher price for the bales of cotton. The cotton sellers, who perceive the troops of the enemy in the most violent contention among themselves, and who therefore are fully assured of the sale of their whole 100 bales, will beware of pulling one another’s hair in order to force down the price of cotton at the very moment in which their opponents race with one another to screw it up high. So, all of a sudden, peace reigns in the army of sellers. They stand opposed to the buyers like one man, fold their arms in opposed to the buyers like one man, fold their arms in
large quantity of them must be given in exchange in order to obtain the same amount of silk. Now, what will be the consequence of a rise in the price of a particular commodity? A mass of capital will be thrown into the prosperous branch of industry, and this immigration of capital into the provinces of the favored industry will continue until it yields no more than the customary profits, or, rather until the price of its products, owning to overproduction, sinks below the cost of production.

Conversely: if the price of a commodity falls below its cost of production, then capital will be withdrawn from the production of this commodity. Except in the case of a branch of industry which has become obsolete and is therefore doomed to disappear, the production of such a commodity (that is, its supply), will, owning to this flight of capital, continue to decrease until it corresponds to the demand, and the price of the commodity rises again to the level of its cost of production; or, rather, until the price of its products, owning to overproduction, sinks below the cost of production.

We see how capital continually emigrates out of the province of one industry and immigrates into that of another. The high price produces an excessive immigration, and the low price an excessive emigration.

We could show, from another point of view, how not only the supply, but also the demand, is determined by the cost of production. But this would lead us too far away from our subject.

We have just seen how the fluctuation of supply and demand always bring the price of a commodity back to its cost of production. The actual price of a commodity, indeed, stands always above or below the cost of production; but the rise and fall reciprocally balance each other, so that, within a certain period of time, if the ebbs and flows of the industry are reckoned up together, the commodities will be exchanged for one another in accordance with their cost of production. Their price is thus determined by their cost of production.

The determination of price by the cost of production is not to be understood in the sense of the bourgeois economists. The economists say that the average price of commodities equals the cost of production: that is the law. The anarchic movement, in which the rise is compensated for by a fall and the fall by a rise, they regard as an accident. We might just as well consider the fluctuations as the law, and the determination of the price by cost of production as an accident — as is, in fact, done by certain other economists. But it is precisely these fluctuations which, viewed more closely, carry the most frightful devastation in their train, and, like an earthquake, cause bourgeois society to shake to its very foundations — it is precisely these fluctuations that force the price to conform to the cost of production. In the totality of this disorderly movement is to be found its order. In the total course of this industrial anarchy, in this circular movement, competition balances, as it were, the one extravagance by the other.

We thus see that the price of a commodity is indeed determined by its cost of production, but in such a manner that the periods in which the price of these commodities rises above the costs of production are balanced by the periods in which it sinks below the cost of production, and vice versa. Of course this does not hold good for a single given product of an industry, but only for that branch of industry. So also it does not hold good for an individual manufacturer, but only for the whole class of manufacturers.

The determination of price by cost of production is tantamount to the determination of price by the labor-time requisite to the production of a commodity, for the cost of production consists, first of raw materials and wear and tear of tools, etc., i.e., of industrial products whose production has cost a certain number of work-days, which therefore represent a certain amount of labor-time, and, secondly, of direct labor, which is also measured by its duration.

4. By what are wages determined?

Now, the same general laws which regulate the price of commodities in general, naturally regulate wages, or the price of labor-power. Wages will now rise, now fall, according to the relation of supply and demand, according as competition shapes itself between the buyers of labor-power, the capitalists, and the sellers of labor-power, the workers. The fluctuations of wages correspond to the fluctuation in the price of commodities in general. But within the limits of these fluctuations the price of labor-power will be determined by the cost of production, by the labor-time necessary for production of this commodity: labor-power.

What, then, is the cost of production of labor-power? It is the cost required for the maintenance of the laborer as a laborer, and for his education and training as a laborer.

Therefore, the shorter the time required for training up to a particular sort of work, the smaller is the cost of production of the worker, the lower is the price of his labor-power, his wages. In those branches of industry in which hardly any period of apprenticeship is necessary and the mere bodily existence of the worker is sufficient, the cost of his production is limited almost exclusively to the commodities necessary for keeping him in working condition. The price of his work will therefore be
determined by the price of the necessary means of subsistence.

Here, however, there enters another consideration. The manufacturer who calculates his cost of production and, in accordance with it, the price of the product, takes into account the wear and tear of the instruments of labor. If a machine costs him, for example, 1,000 shillings, and this machine is used up in 10 years, he adds 100 shillings annually to the price of the commodities, in order to be able after 10 years to replace the worn-out machine with a new one. In the same manner, the cost of production of simple labor-power must include the cost of propagation, by means of which the race of workers is enabled to multiply itself, and to replace worn-out workers with new ones. The wear and tear of the worker, therefore, is calculated in the same manner as the wear and tear of the machine.

Thus, the cost of production of simple labor-power amounts to the cost of the existence and propagation of the worker. The price of this cost of existence and propagation constitutes wages. The wages thus determined are called the minimum of wages. This minimum wage, like the determination of the price of commodities in general by cost of production, does not hold good for the single individual, but only for the race. Individual workers, indeed, millions of workers, do not receive enough to be able to exist and to propagate themselves; but the wages of the whole working class adjust themselves, within the limits of their fluctuations, to this minimum.

Now that we have come to an understanding in regard to the most general laws which govern wages, as well as the price of every other commodity, we can examine our subject more particularly.

5. The Nature and Growth of Capital

Capital consists of raw materials, instruments of labor, and means of subsistence of all kinds, which are employed in producing new raw materials, new instruments, and new means of subsistence. All these components of capital are created by labor, products of labor, accumulated labor. Accumulated labor that serves as a means to new production is capital.

So says the economists.

What is a Negro slave? A man of the black race. The one explanation is worthy of the other.

A Negro is a Negro. Only under certain conditions does he become a slave. A cotton-spinning machine is a machine for spinning cotton. Only under certain conditions does it become capital. Torn away from these conditions, it is as little capital as gold is itself money, or sugar is the price of sugar.

In the process of production, human beings work not only upon nature, but also upon one another. They produce only by working together in a specified manner and reciprocally exchanging their activities. In order to produce, they enter into definite connections and relations to one another, and only within these social connections and relations does their influence upon nature operate — i.e., does production take place.

These social relations between the producers, and the conditions under which they exchange their activities and share in the total act of production, will naturally vary according to the character of the means of production. With the discovery of a new instrument of warfare, the firearm, the whole internal organization of the army was necessarily altered, the relations within which individuals compose an army and can work as an army were transformed, and the relation of different armies to another was likewise changed.

We thus see that the social relations within which individuals produce, the social relations of production, are altered, transformed, with the change and development of the material means of production, of the forces of production. The relations of production in their totality constitute what is called the social relations, society, and, moreover, a society at a definite stage of historical development, a society with peculiar, distinctive characteristics. Ancient society, feudal society, bourgeois (or capitalist) society, are such totalities of relations of production, each of which denotes a particular stage of development in the history of mankind.

Capital also is a social relation of production. It is a bourgeois relation of production, a relation of production of bourgeois society. The means of subsistence, the instruments of labor, the raw materials, of which capital consists — have they not been produced and accumulated under given social conditions, within definite special relations? Are they not employed for new production, under given special conditions, within definite social relations? And does not just the definite social characteristic stamp the products which serve for new production as capital?

Capital consists not only of means of subsistence, instruments of labor, and raw materials, not only as material products; it consists just as much of exchange values. All products of which it consists are commodities. Capital, consequently, is not only a sum of material products, it is a sum of commodities, of exchange values, of social magnitudes. Capital remains the same whether we put cotton in the place of wool, rice in the place of wheat, steamships in the place of railroads, provided only that the cotton, the rice, the steamships — the body of capital — have the same exchange value, the same price, as the
wool, the wheat, the railroads, in which it was previously embodied. The bodily form of capital may transform itself continually, while capital does not suffer the least alteration.

But though every capital is a sum of commodities — i.e., of exchange values — it does not follow that every sum of commodities, of exchange values, is capital.

Every sum of exchange values is an exchange value. Each particular exchange value is a sum of exchange values. For example: a house worth 1,000 pounds is an exchange value of 1,000 pounds: a piece of paper worth one penny is a sum of exchange values of 100 1/100ths of a penny. Products which are exchangeable for others are commodities. The definite proportion in which they are exchangeable forms their exchange value, or, expressed in money, their price. The quantity of these products can have no effect on their character as commodities, as representing an exchange value, as having a certain price. Whether a tree be large or small, it remains a tree. Whether we exchange iron in pennyweights or in hundredweights, for other products, does this alter its character: its being a commodity, or exchange value? According to the quantity, it is a commodity of greater or of lesser value, of higher or of lower price.

How then does a sum of commodities, of exchange values, become capital?

Thereby, that as an independent social power — i.e., as the power of a part of society — it preserves itself and multiplies by exchange with direct, living labor-power.

The existence of a class which possess nothing but the ability to work is a necessary presupposition of capital.

It is only the dominion of past, accumulated, materialized labor over immediate living labor that stamps the accumulated labor with the character of capital.

Capital does not consist in the fact that accumulated labor serves living labor as a means for new production. It consists in the fact that living labor serves accumulated labor as the means of preserving and multiplying its exchange value.

6. Relation of Wage-Labour to Capital

What is it that takes place in the exchange between the capitalist and the wage-labor?

The laborer receives means of subsistence in exchange for his labor-power; the capitalist receives, in exchange for his means of subsistence, labor, the productive activity of the laborer, the creative force by which the worker not only replaces what he consumes, but also gives to the accumulated labor a greater value than it previously possessed. The laborer gets from the capitalist a portion of the existing means of subsistence. For what purpose do these means of subsistence serve him? For immediate consumption. But as soon as I consume means of subsistence, they are irrevocably lost to me, unless I employ the time during which these means sustain my life in producing new means of subsistence, in creating by my labor new values in place of the values lost in consumption. But it is just this noble reproductive power that the laborer surrenders to the capitalist in exchange for means of subsistence received. Consequently, he has lost it for himself.

Let us take an example. For one shilling a laborer works all day long in the fields of a farmer, to whom he thus secures a return of two shillings. The farmer not only receives the replaced value which he has given to the day laborer, he has doubled it. Therefore, he has consumed the one shilling that he gave to the day laborer in a fruitful, productive manner. For the one shilling he has bought the labor-power of the day-laborer, which creates products of the soil of twice the value, and out of one shilling makes two. The day-laborer, on the contrary, receives in the place of his productive force, whose results he has just surrendered to the farmer, one shilling, which he exchanges for means of subsistence, which he consumes more or less quickly. The one shilling has therefore been consumed in a double manner — productively for the capitalist, for it has been exchanged for labor-power, which brought forth two shillings; unproductively for the worker, for it has been exchanged for means of subsistence which are lost for ever, and whose value he can obtain again only by repeating the same exchange with the farmer. Capital therefore presupposes wage-labor; wage-labor presupposes capital. They condition each other; each brings the other into existence.

Does a worker in a cotton factory produce only cotton? No. He produces capital. He produces values which serve anew to command his work and to create by means of it new values.

Capital can multiply itself only by exchanging itself for labor-power, by calling wage-labor into life. The labor-power of the wage-laborer can exchange itself for capital only by increasing capital, by strengthening that very power whose slave it is. Increase of capital, therefore, is increase of the proletariat, i.e., of the working class.

And so, the bourgeoisie and its economists maintain that the interest of the capitalist and of the laborer is the same. And in fact, so they are! The worker perishes if capital does not keep him busy. Capital perishes if it does not exploit labor-power, which, in order to exploit, it must buy. The more quickly the capital destined for production — the productive capital — increases, the more prosperous industry is, the more the bourgeoisie
enriches itself, the better business gets, so many more workers does the capitalist need, so much the dearer does the worker sell himself. The fastest possible growth of productive capital is, therefore, the indispensable condition for a tolerable life to the laborer.

But what is growth of productive capital? Growth of the power of accumulated labor over living labor; growth of the rule of the bourgeoisie over the working class. When wage-labor produces the alien wealth dominating it, the power hostile to it, capital, there flow back to it its means of employment — i.e., its means of subsistence, under the condition that it again become a part of capital, that is become again the lever whereby capital is to be forced into an accelerated expansive movement.

To say that the interests of capital and the interests of the workers are identical, signifies only this: that capital and wage-labor are two sides of one and the same relation. The one conditions the other in the same way that the usurer and the borrower condition each other.

As long as the wage-laborer remains a wage-laborer, his lot is dependent upon capital. That is what the boasted community of interests between worker and capitalists amounts to.

If capital grows, the mass of wage-labor grows, the number of wage-workers increases; in a word, the sway of capital extends over a greater mass of individuals.

Let us suppose the most favorable case: if productive capital grows, the demand for labor grows. It therefore increases the price of labor-power, wages.

A house may be large or small; as long as the neighboring houses are likewise small, it satisfies all social requirement for a residence. But let there arise next to the little house a palace, and the little house shrinks to a hut. The little house now makes it clear that its inmate has no social position at all to maintain, or but a very insignificant one; and however high it may shoot up in the course of civilization, if the neighboring palace rises in equal or even in greater measure, the occupant of the relatively little house will always find himself more uncomfortable, more dissatisfied, more cramped within his four walls.

An appreciable rise in wages presupposes a rapid growth of productive capital. Rapid growth of productive capital calls forth just as rapid a growth of wealth, of luxury, of social needs and social pleasures. Therefore, although the pleasures of the laborer have increased, the social gratification which they afford has fallen in comparison with the increased pleasures of the capitalist, which are inaccessible to the worker, in comparison with the stage of development of society in general. Our wants and pleasures have their origin in society; we therefore measure them in relation to society; we do not measure them in relation to the objects which serve for their gratification. Since they are of a social nature, they are of a relative nature.

But wages are not at all determined merely by the sum of commodities for which they may be exchanged. Other factors enter into the problem. What the workers directly receive for their labor-power is a certain sum of money. Are wages determined merely by this money price?

In the 16th century, the gold and silver circulation in Europe increased in consequence of the discovery of richer and more easily worked mines in America. The value of gold and silver, therefore, fell in relation to other commodities. The workers received the same amount of coined silver for their labor-power as before. The money price of their work remained the same, and yet their wages had fallen, for in exchange for the same amount of silver they obtained a smaller amount of other commodities. This was one of the circumstances which furthered the growth of capital, the rise of the bourgeoisie, in the 18th century.

Let us take another case. In the winter of 1847, in consequence of bad harvest, the most indispensable means of subsistence — grains, meat, butter, cheese, etc. — rose greatly in price. Let us suppose that the workers still received the same sum of money for their labor-power as before. Did not their wages fall? To be sure. For the same money they received in exchange less bread, meat, etc. Their wages fell, not because the value of silver was less, but because the value of the means of subsistence had increased.

Finally, let us suppose that the money price of labor-power remained the same, while all agricultural and manufactured commodities had fallen in price because of the employment of new machines, of favorable seasons, etc. For the same money the workers could now buy more commodities of all kinds. Their wages have therefore risen, just because their money value has not changed.

The money price of labor-power, the nominal wages, do not therefore coincide with the actual or real wages — i.e., with the amount of commodities which are actually given in exchange for the wages. If then we speak of a rise or fall of wages, we have to keep in mind not only the money price of labor-power, the nominal wages, but also the real wages.

But neither the nominal wages — i.e., the amount of money for which the laborer sells himself to the capitalist — nor the real wages — i.e., the amount of commodities which he can buy for this money — exhausts the relations which are comprehended in the term wages.

Wages are determined above all by their relations to the gain, the profit, of the capitalist. In other words, wages are a proportionate, relative quantity.

Real wages express the price of labor-power in relation to the price of commodities; relative wages, on the other hand, express the share of immediate labor in the
value newly created by it, in relation to the share of it which falls to accumulated labor, to capital.

7. The General Law that Determines the Rise and Fall of Wages and Profits

We have said: “Wages are not a share of the worker in the commodities produced by him. Wages are that part of already existing commodities with which the capitalist buys a certain amount of productive labor-power.” But the capitalist must replace these wages out of the price for which he sells the product made by the worker; he must so replace it that, as a rule, there remains to him a surplus above the cost of production expended by him, that is, he must get a profit.

The selling price of the commodities produced by the worker is divided, from the point of view of the capitalist, into three parts:

First, the replacement of the price of the raw materials advanced by him, in addition to the replacement of the wear and tear of the tools, machines, and other instruments of labor likewise advanced by him;

Second, the replacement of the wages advanced; and

Third, the surplus leftover — i.e., the profit of the capitalist.

While the first part merely replaces previously existing values, it is evident that the replacement of the wages and the surplus (the profit of capital) are as a whole taken out of the new value, which is produced by the labor of the worker and added to the raw materials. And in this sense we can view wages as well as profit, for the purpose of comparing them with each other, as shares in the product of the worker.

Real wages may remain the same, they may even rise, nevertheless the relative wages may fall. Let us suppose, for instance, that all means of subsistence have fallen 2/3rds in price, while the day’s wages have fallen but 1/3rd — for example, from three to two shillings. Although the worker can now get a greater amount of commodities with these two shillings than he formerly did with three shillings, yet his wages have decreased in proportion to the gain of the capitalist. The profit of the capitalist — the manufacturer’s for instance — has increased one shilling, which means that for a smaller amount of exchange values, which he pays to the worker, the latter must produce a greater amount of exchange values than before. The share of capitals in proportion to the share of labor has risen. The distribution of social wealth between capital and labor has become still more unequal.

The capitalist commands a greater amount of labor with the same capital. The power of the capitalist class over the working class has grown, the social position of the worker has become worse, has been forced down still another degree below that of the capitalist.

What, then, is the general law that determines the rise and fall of wages and profit in their reciprocal relation?

They stand in inverse proportion to each other. The share of (profit) increases in the same proportion in which the share of labor (wages) falls, and vice versa. Profit rises in the same degree in which wages fall; it falls in the same degree in which wages rise.

It might perhaps be argued that the capitalist class can gain by an advantageous exchange of his products with other capitalists, by a rise in the demand for his commodities, whether in consequence of the opening up of new markets, or in consequence of temporarily increased demands in the old market, and so on; that the profit of the capitalist, therefore, may be multiplied by taking advantage of other capitalists, independently of the rise and fall of wages, of the exchange value of labor-power; or that the profit of the capitalist may also rise through improvements in the instruments of labor, new applications of the forces of nature, and so on.

But in the first place it must be admitted that the result remains the same, although brought about in an opposite manner. Profit, indeed, has not risen because wages have fallen, but wages have fallen because profit has risen. With the same amount of another man’s labor the capitalist has bought a larger amount of exchange values without having paid more for the labor on that account — i.e., the work is paid for less in proportion to the net gain which it yields to the capitalist.

In the second place, it must be borne in mind that, despite the fluctuations in the prices of commodities, the average price of every commodity, the proportion in which it exchanges for other commodities, is determined by its cost of production. The acts of overreaching and taking advantage of one another within the capitalist ranks necessarily equalize themselves. The improvements of machinery, the new applications of the forces of nature in the service of production, make it possible to produce in a given period of time, with the same amount of labor and capital, a larger amount of products, but in no wise a larger amount of exchange values. If by the use of the spinning-machine I can furnish twice as much yarn in an hour as before its invention — for instance, 100 pounds instead of 50 pounds — in the long run I receive back, in exchange for this 100 pounds no more commodities than I did before for 50; because the cost of production has fallen by 1/2, or because I can furnish double the product at the same cost.

Finally, in whatsoever proportion the capitalist class,
whether of one country or of the entire world-market, distribute the net revenue of production among themselves, the total amount of this net revenue always consists exclusively of the amount by which accumulated labor has been increased from the proceeds of direct labor. This whole amount, therefore, grows in the same proportion in which labor augments capital — i.e., in the same proportion in which profit rises as compared with wages.

8. The Interests of Capital and Wage-Labour are diametrically opposed; Effect of growth of productive Capital on Wages

We thus see that, even if we keep ourselves within the relation of capital and wage-labor, the interests of capitals and the interests of wage-labor are diametrically opposed to each other.

A rapid growth of capital is synonymous with a rapid growth of profits. Profits can grow rapidly only when the price of labor — the relative wages — decrease just as rapidly. Relative wages may fall, although real wages rise simultaneously with nominal wages, with the money value of labor, provided only that the real wage does not rise in the same proportion as the profit. If, for instance, in good business years wages rise 5 per cent, while profits rise 30 per cent, the proportional, the relative wage has not increased, but decreased.

If, therefore, the income of the worker increased with the rapid growth of capital, there is at the same time a widening of the social chasm that divides the worker from the capitalist, and increase in the power of capital over labor, a greater dependence of labor upon capital.

To say that “the worker has an interest in the rapid growth of capital”, means only this: that the more speedily the worker augments the wealth of the capitalist, the larger will be the crumbs which fall to him, the greater will be the number of workers that can be called into existence, the more can the mass of slaves dependent upon capital be increased.

We have thus seen that even the most favorable situation for the working class, namely, the most rapid growth of capital, however much it may improve the material life of the worker, does not abolish the antagonism between his interests and the interests of the capitalist. Profit and wages remain as before, in inverse proportion.

If capital grows rapidly, wages may rise, but the profit of capital rises disproportionately faster. The material position of the worker has improved, but at the cost of his social position. The social chasm that separates him from the capitalist has widened.

Finally, to say that “the most favorable condition for wage-labor is the fastest possible growth of productive capital”, is the same as to say: the quicker the working class multiplies and augments the power inimical to it — the wealth of another which lords over that class — the more favorable will be the conditions under which it will be permitted to toil anew at the multiplication of bourgeois wealth, at the enlargement of the power of capital, content thus to forge for itself the golden chains by which the bourgeoisie drags it in its train.

Growth of productive capital and rise of wages, are they really so indissolubly united as the bourgeois economists maintain? We must not believe their mere words. We dare not believe them even when they claim that the fatter capital is the more will its slave be pampered. The bourgeoisie is too much enlightened, it keeps its accounts much too carefully, to share the prejudices of the feudal lord, who makes an ostentatious display of the magnificence of his retinue. The conditions of existence of the bourgeoisie compel it to attend carefully to its bookkeeping. We must therefore examine more closely into the following question:

In what manner does the growth of productive capital affect wages?

If as a whole, the productive capital of bourgeois society grows, there takes place a more many-sided accumulation of labor. The individual capitals increase in number and in magnitude. The multiplications of individual capitals increases the competition among capitalists. The increasing magnitude of increasing capitals provides the means of leading more powerful armies of workers with more gigantic instruments of war upon the industrial battlefield.

The one capitalist can drive the other from the field and carry off his capital only by selling more cheaply. In order to sell more cheaply without ruining himself, he must produce more cheaply — i.e., increase the productive forces of labor as much as possible.

But the productive forces of labor is increased above all by a greater division of labor and by a more general introduction and constant improvement of machinery. The larger the army of workers whom the labor is subdivided, the more gigantic the scale upon which machinery is introduced, the more in proportion does the cost of production decrease, the more fruitful is the labor. And so there arises among the capitalists a universal rivalry for the increase of the division of labor and of machinery and for their exploitation upon the greatest possible scale.

If, now, by a greater division of labor, by the application and improvement of new machines, by a more advantageous exploitation of the forces of nature on a
larger scale, a capitalist has found the means of produc-
ing with the same amount of labor (whether it be direct or
accumulated labor) a larger amount of products of com-
modities than his competitors — if, for instance, he can
produce a whole yard of linen in the same labor-time in
which his competitors weave half-a-yard — how will this
capitalist act?

He could keep on selling half-a-yard of linen at old
market price; but this would not have the effect of driv-
ing his opponents from the field and enlarging his own
market. But his need of a market has increased in the
same measure in which his productive power has ex-
tended. The more powerful and costly means of pro-
duction that he has called into existence enable him, it
is true, to sell his wares more cheaply, but they compel
him at the same time to sell more wares, to get control
of a very much greater market for his commodities; con-
sequently, this capitalist will sell his half-yard of linen
more cheaply than his competitors.

But the capitalist will not sell the whole yard so
cheaply as his competitors sell the half-yard, although
the production of the whole yard costs him no more than
does that of the half-yard to the others. Otherwise, he
would make no extra profit, and would get back in ex-
change only the cost of production. He might obtain a
greater income from having set in motion a larger capi-
tal, but not from having made a greater profit on his cap-
ital than the others. Moreover, he attains the object he
is aiming at if he prices his goods only a small percent-
age lower than his competitors. He drives them off the
field, he wrests from them at least part of their market,
by underselling them.

And finally, let us remember that the current price al-
ways stands either above or below the cost of production,
according as the sale of a commodity takes place in the
favorable or unfavorable period of the industry. Accord-
ing as the market price of the yard of linen stands above
or below its former cost of production, will the percent-
age vary at which the capitalist who has made use of the
new and more faithful means of production sell above his
real cost of production.

But the privilege of our capitalist is not of long dura-
tion. Other competing capitalists introduce the same ma-
chines, the same division of labor, and introduce them
upon the same or even upon a greater scale. And finally,
this introduction becomes so universal that the price of
the linen is lowered not only below its old, but even be-
low its new cost of production.

The capitalists therefore find themselves, in their mu-
tual relations, in the same situation in which they were
before the introduction of the new means of production:
and if they are by these means enabled to offer double the
product at the old price, they are now forced to furnish
double the product for less than the old price. Having
arrived at the new point, the new cost of production, the
battle for supremacy in the market has to be fought out
anew. Given more division of labor and more machin-
ery, and there results a greater scale upon which division
of labor and machinery are exploited. And competition
again brings the same reaction against this result.

9. Effect of Capitalist Competition
on the Capitalist Class the Middle
Class and the Working Class

We thus see how the method of production and the means
of production are constantly enlarged, revolutionized,
how division of labor necessarily draws after it greater
division of labor, the employment of machinery greater
employment of machinery, work upon a large scale work
upon a still greater scale. This is the law that continually
throws capitalist production out of its old routs and com-
pels capital to strain ever more the productive forces of
labor for the very reason that it has already strained them
— the law that grants it no respite, and constantly shouts
in its ear: March! march! This is no other law than that
which, within the periodical fluctuations of commerce,
necessarily adjusts the price of a commodity to its cost
of production.

No matter how powerful the means of production
which a capitalist may bring into the field, competition
will make their adoption general; and from the moment
that they have been generally adopted, the sole result of
the greater productiveness of his capital will be that he
must furnish at the same price, 10, 20, 100 times as much
as before. But since he must find a market for, perhaps,
1,000 times as much, in order to outweigh the lower sell-
ing price by the greater quantity of the sale; since now a
more extensive sale is necessary not only to gain a greater
profit, but also in order to replace the cost of production
(the instrument of production itself grows always more
costly, as we have seen), and since this more extensive
sale has become a question of life and death not only for
him, but also for his rivals, the old struggle must begin
again, and it is all the more violent the more powerful the
means of production already invented are. The division
of labor and the application of machinery will therefore
take a fresh start, and upon an even greater scale.

Whatever be the power of the means of production
which are employed, competition seeks to rob capital
of the golden fruits of this power by reducing the price
of commodities to the cost of production; in the same
measure in which production is cheapened — i.e., in the
same measure in which more can be produced with the
same amount of labor — it compels by a law which is
irresistible a still greater cheapening of production, the sale of ever greater masses of product for smaller prices. Thus the capitalist will have gained nothing more by his efforts than the obligation to furnish a greater product in the same labor-time; in a word, more difficult conditions for the profitable employment of his capital. While competition, therefore, constantly pursues him with its law of the cost of production and turns against himself every weapon that he forges against his rivals, the capitalist continually seeks to get the best of competition by restlessly introducing further subdivision of labor and new machines, which, though more expensive, enable him to produce more cheaply, instead of waiting until the new machines shall have been rendered obsolete by competition.

If we now conceive this feverish agitation as it operates in the market of the whole world, we shall be in a position to comprehend how the growth, accumulation, and concentration of capital bring in their train an ever more detailed subdivision of labor, an ever greater improvement of old machines, and a constant application of new machine — a process which goes on uninterruptedly, with feverish haste, and upon an ever more gigantic scale.

But what effect do these conditions, which are inseparable from the growth of productive capital, have upon the determination of wages?

The greater division of labor enables one laborer to accomplish the work of five, 10, or 20 laborers; it therefore increases competition among the laborers fivefold, tenfold, or twentyfold. The laborers compete not only by selling themselves one cheaper than the other, but also by one doing the work of five, 10, or 20; and they are forced to compete in this manner by the division of labor, which is introduced and steadily improved by capital.

Furthermore, to the same degree in which the division of labor increases, is the labor simplified. The special skill of the laborer becomes worthless. He becomes transformed into a simple monotonous force of production, with neither physical nor mental elasticity. His work becomes accessible to all; therefore competitors press upon him from all sides. Moreover, it must be remembered that the more simple, the more easily learned the work is, so much the less is its cost to production, the expense of its acquisition, and so much the lower must the wages sink — for, like the price of any other commodity, they are determined by the cost of production. Therefore, in the same manner in which labor becomes more unsatisfactory, more repulsive, do competition increase and wages decrease.

The laborer seeks to maintain the total of his wages for a given time by performing more labor, either by working a great number of hours, or by accomplishing more in the same number of hours. Thus, urged on by want, he himself multiplies the disastrous effects of division of labor. The result is: the more he works, the less wages he receives. And for this simple reason: the more he works, the more he competes against his fellow workmen, the more he compels them to compete against him, and to offer themselves on the same wretched conditions as he does; so that, in the last analysis, he competes against himself as a member of the working class.

Machinery produces the same effects, but upon a much larger scale. It supplants skilled laborers by unskilled, men by women, adults by children; where newly introduced, it throws workers upon the streets in great masses; and as it becomes more highly developed and more productive it discards them in additional though smaller numbers.

We have hastily sketched in broad outlines the industrial war of capitalists among themselves. This war has the peculiarity that the battles in it are won less by recruiting than by discharging the army of workers. The generals (the capitalists) vie with one another as to who can discharge the greatest number of industrial soldiers. The economists tell us, to be sure, that those laborers who have been rendered superfluous by machinery find new venues of employment. They dare not assert directly that the same laborers that have been discharged find situations in new branches of labor. Facts cry out too loudly against this lie. Strictly speaking, they only maintain that new means of employment will be found for other sections of the working class; for example, for that portion of the young generation of laborers who were about to enter upon that branch of industry which had just been abolished. Of course, this is a great satisfaction to the disabled laborers. There will be no lack of fresh exploitable blood and muscle for the Messrs. Capitalists — the dead may bury their dead. This consolation seems to be intended more for the comfort of the capitalists themselves than their laborers. If the whole class of the wage-laborer were to be annihilated by machinery, how terrible that would be for capital, which, without wage-labor, ceases to be capital!

But even if we assume that all who are directly forced out of employment by machinery, as well as all of the rising generation who were waiting for a chance of employment in the same branch of industry, do actually find some new employment — are we to believe that this new employment will pay as high wages as did the one they have lost? If it did, it would be in contradiction to the laws of political economy. We have seen how modern industry always tends to the substitution of the simpler and more subordinate employments for the higher and more complex ones. How, then, could a mass of workers thrown out of one branch of industry by machinery
find refuge in another branch, unless they were to be paid more poorly?

An exception to the law has been adduced, namely, the workers who are employed in the manufacture of machinery itself. As soon as there is in industry a greater demand for and a greater consumption of machinery, it is said that the number of machines must necessarily increase; consequently, also, the manufacture of machines; consequently, also, the employment of workers in machine manufacture; — and the workers employed in this branch of industry are skilled, even educated, workers.

Since the year 1840 this assertion, which even before that date was only half-true, has lost all semblance of truth; for the most diverse machines are now applied to the manufacture of the machines themselves on quite as extensive a scale as in the manufacture of cotton yarn, and the laborers employed in machine factories can but play the role of very stupid machines alongside of the highly ingenious machines.

But in place of the man who has been dismissed by the machine, the factory may employ, perhaps, three children and one woman! And must not the wages of the man have previously sufficed for the three children and one woman? Must not the minimum wages have sufficed for the preservation and propagation of the race? What, then, do these beloved bourgeois phrases prove? Nothing more than that now four times as many workers’ lives are used up as there were previously, in order to obtain the livelihood of one working family.

To sum up: the more productive capital grows, the more it extends the division of labor and the application of machinery; the more the division of labor and the application of machinery extend, the more does competition extend among the workers, the more do their wages shrink together.

In addition, the working class is also recruited from the higher strata of society; a mass of small business men and of people living upon the interest of their capitals is precipitated into the ranks of the working class, and they will have nothing else to do than to stretch out their arms alongside of the arms of the workers. Thus the forest of outstretched arms, begging for work, grows ever thicker, while the arms themselves grow every leaner.

It is evident that the small manufacturer cannot survive in a struggle in which the first condition of success is production upon an ever greater scale. It is evident that the small manufacturers and thereby increasing the number of candidates for the proletariat — all this requires no further elucidation.

Finally, in the same measure in which the capitalists are compelled, by the movement described above, to exploit the already existing gigantic means of production on an ever-increasing scale, and for this purpose to set in motion all the mainsprings of credit, in the same measure do they increase the industrial earthquakes, in the midst of which the commercial world can preserve itself only by sacrificing a portion of its wealth, its products, and even its forces of production, to the gods of the lower world — in short, the crises increase. They become more frequent and more violent, if for no other reason, than for this alone, that in the same measure in which the mass of products grows, and there the needs for extensive markets, in the same measure does the world market shrink ever more, and ever fewer markets remain to be exploited, since every previous crisis has subjected to the commerce of the world a hitherto unconquered or but superficially exploited market.

But capital not only lives upon labor. Like a master, at once distinguished and barbarous, it drags with it into its grave the corpses of its slaves, whole hecatombs of workers, who perish in the crises.

We thus see that if capital grows rapidly, competition among the workers grows with even greater rapidity — i.e., the means of employment and subsistence for the working class decrease in proportion even more rapidly; but, notwithstanding, the rapid growth of capital is the most favorable condition for wage-labor.
One evening in the winter of 1801 as I walked in the park, I happened to meet Mr. C—who was engaged as first dancer in the opera, a man very popular with the public. I told him, in passing, that I had seen him several times at an outdoor marionette theater that had been set up in the market square to entertain the common-folk with songs and dances and short dramatic burlesques.

He assured me that I need not be surprised at his delight in the pantomime of these marionettes; and he hinted that they could be very effective teachers of the dance. Since he did not seem to be indulging a mere whim about them, I sat down with him to discuss this strange theory in which marionettes seemed to become teachers.

He asked me if I had not been impressed by the elegance and gracefulness of the movements of these puppets, particularly of the smaller ones. I could not deny that I had been impressed. A group of four peasants dancing a fast Rondo could not have been portrayed with more beauty and charm by the most famous Flemish painter of village scenes.

I inquired about the mechanical control of these figures. How was it possible to direct the small limbs in the intricate rhythms of the dance? How did the puppeteer manage without having his hands tied in a confusion of strings?

He replied that I should not be deceived into thinking that each limb was separately controlled in all the phases of the dance. “Each marionette,” he said, “has a focal point in movement, a center of gravity, and when the center is moved, the limbs follow without any additional handling. After all, the limbs are pendula\(^1\), echoing automatically the movement of the center.

“These movements of the center are very simple. Every time the center of gravity is guided in a straight line, the limbs describe curves that complement and extend the basically simple movement. Many times when the marionettes are merely shaken arbitrarily, they are transformed into a kind of rhythmic movement that in itself is very similar to the dance.”

These remarks seemed at first to throw light on his enjoyment of the marionette theater, but I did not as yet have any concept of the consequences of his ideas.

I asked him whether he thought that the puppeteer should have some sense of the beauty in dance.

He replied: “Even if the manipulation is easy, it is not necessarily performed without feeling. The line which the center of gravity has to describe is, at any rate, very simple and in most cases straight. In cases where the line is curved, the curve remains simple, at the most complicated, elliptic; and the ellipse (because of the joints) seems to be the natural curve for movement of the human body. The drawing of an ellipse does not demand any great artistry on the part of the puppeteer. On the other hand there is something enigmatic about an ellipse. It is actually the course that the soul of the dancer takes when the dancer moves, and I doubt whether this course can be traced if the puppeteer does not enter the center of gravity of his marionette; in other words, the puppeteer himself must dance.”

I replied that I had regarded the handling of marionettes as something rather spiritless, approximate to the turning of the crank that plays a hand organ.

“Yes, their sphere of movement is limited, but the movements that they command they perform with a poise, ease and gracefulness that would astound you.”

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\(^1\) Pendulum: a weight hung from a fixed point so that it can swing freely backward and forward.
I said jokingly that he had found his man. The artisan who was able to build such a remarkable leg should, doubtless, be able to build a marionette to his specifications.

It was his turn to stare silently at the pavement. “What,” I asked, “are the specific demands you want to make for your marionette?”

“Nothing,” he said, “nothing that is unusual; simple harmonious proportion, mobility, ease of manipulation; but each of these qualities must be developed to a higher degree; and most particularly the placement of the center of gravity must be more true to nature than in the common marionette.”

“And what advantage would these marionettes of yours have over the human dancer?”

“Advantage . . . at first only a negative one. The marionette would never slip into affectation (if we think of affectation as appearing when the center of intention of a movement is separated from the center of gravity of the movement). Since the puppeteer has no control over any point other than the center of gravity, and since this center is his only means of starting an intended movement, as the limbs follow the law of gravity and are what they ought to be: dead, mere pendula. We look in vain for this quality in the majority of our dancers.”

“Look at Miss P—” he continued, “when she plays Daphne, persecuted by Apollo, she looks back at him; the soul, the center of intention, is located in the lumbar vertebra; she bends down as if she would break; and young F— when, as Paris, he stands among the goddesses and presents the apple to Venus, his soul is (oh painful to behold!) in his elbow.

“Great blunders,” he added, “are inevitable. We have eaten from the tree of knowledge; the paradise of Eden is locked up; and the Cherubim is behind us. We must wander about the world and see if, perhaps, we can find an unguarded back door.”

I laughed. Certainly, I thought, the spirit cannot err when it is non-existent. But I saw that he had more on his mind and I asked him to continue.

“These marionettes,” he said, “have another advantage. They haven’t discovered the law of gravity. They know nothing about the inertia of matter. In other words they know nothing of those qualities most opposed to the dance. The force that pulls them into the air is more powerful than that which shackles them to the earth. What would not our dear G— give to be sixty pounds lighter or to have a force that would lift her for her entrechats and pirouettes. These marionettes, like fairies, use the earth only as a point of departure; they return to it only to renew the flight of their limbs with a momentary pause.

We, on the other hand, need the earth: for rest, for repose from the effort of the dance; but this rest of ours is, in itself, obviously not dance; and we can do no better than disguise our moments of rest as much as possible.”

I said that however cleverly he managed his paradoxes he would never make me believe that there was more grace in a jointed mechanical doll than there is in the structure of the human body.

He replied: “It is simply impossible for a human being to reach the grace of the jointed doll. Only a god can duel with matter on this level, and it is at this point that the two ends of the ring-formed world grasp each other.”

I was more surprised than before, and I did not know how to reply to these strange statements.

“It would seem,” he said, “that you have not read the third chapter of Genesis with sufficient attention; and if one does not understand the first period of human culture, it is difficult enough to talk about the periods that follow but almost impossible to discuss the very last period.”

I said: “I know all too well the disorder that self-consciousness imposes on the natural grace of the human being. Before my very eyes, a young acquaintance of mine ‘lost his innocence,’ and he has never recovered his lost paradise despite his efforts. But what consequences can you draw from that?”

He asked me what had happened.

“About three years ago,” I said, “I was bathing with a young man who at that time had a wonderful quality of physical grace. He was about sixteen years old; and since he had only vaguely attracted the attention of women, the first traces of vanity were barely discernible. It happened that we had both just seen the statue of the youth removing a splinter from his foot; (the cast of this sculpture is included in most German collections). As my young friend was drying himself, he put his foot an a stool; a glance at his reflection in a large mirror reminded him of the statue. He smiled and told me his discovery. In fact I had made the same discovery at that very moment, but to counter his vanity I laughed and replied that he was seeing ghosts. He blushed and lifted his foot a second time to show me. Of course, the experiment failed. Confused, he lifted his foot a third and fourth time; he lifted it possibly ten times in all and in vain. He was incapable of reproducing the gesture; in fact, the movement that he made had such an element of oddity that it was hard for me to repress my laughter.

“From that day on, practically from the very moment, the young man was changed. Day after day he stood before a mirror, and one by one his charms fell away from him. An invisible and inconceivable pressure (like an iron net) seemed to confine the free flow of his gestures,

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2 *entrechat*: a vertical jump during which the dancer repeatedly crosses the feet and beats them together.

3 *pirouette*: an act of spinning on one foot, typically with the raised foot touching the knee of the supporting leg.
and after a year had passed there remained not a trace of
that loveliness that had so delighted everyone.”

Mr. C— began very gently: “On this occasion I must
tell you yet another story. You will understand easily
how it relates.

“On my journey to Russia I stayed at the estate of Herr
von G—, a Lithuanian nobleman, whose sons were at
that time intense in their practice of fencing. The older
one, just back from the university, styled himself a virtu-
oso and one morning offered me a rapier. We fenced, and
it happened that I was victorious. His passion had added
to his confusion; and almost every thrust that I made was
a hit until finally his rapier was knocked from his hand.

“As he picked it up, half in joke, half in irritation,
he said that he had found his master, indeed that every-
one in the world eventually found his master and that he
would show me mine. The brother laughed heartily and
shouted: ‘Let’s go to the woodshed.’ And with that they
took me by the arm and led me to a bear which their fa-
ther had had raised in the yard.

“As I approached, the bear stood erect with his back
against the pole to which he was chained. He looked me
in the eye, his right paw raised; he was in fencing posi-
tion. For a moment, confronted by this strange rival, I
thought I was dreaming. ‘Foil, foil,’ said Herr von G—,
‘see if you can strike him.’ When I had recovered from
my astonishment, I thrust at him with the rapier; the bear
flipped his paw; the thrust was parried. I tried to seduce
him with a feint; the bear did not budge. With a sud-
den lunge I thrust again; I would absolutely have hit a
human opponent; the bear flipped his paw, parried the
thrust. I was in the same spot that young Herr von G—
had been. The bear’s concentration added to my loss of
composure. I alternated thrusts and feints; I sweated, in
vain! Like the finest fencer in the world, the bear met
and parried each thrust, but he did not respond to feints;
(no fencer in the world could have matched him in that).
Eye to eye, as if he read my soul, he stood with his paw
lifted, ready to fight; and if I did not intend my thrust, he
remained immobile.

“Do you believe this story?”

“Absolutely!” I exclaimed, applauding him. “I would
believe it of anyone and how much more of you.”

“Now then,” said Mr. C—, “you have in your posses-
sion every means of understanding me. We see that in
the natural world, as the power of reflection darkens and
weakens, grace comes forward, more radiant, more dom-
inating . . . But that is not all; two lines intersect, separate
and pass through infinity and beyond, only to suddenly
reappear at the same point of intersection. As we look
in a concave mirror, the image vanishes into infinity and
appears again close before us. Just in this way, after self-
consciousness has, so to speak, passed through infinity,
the quality of grace will reappear; and this reborn quality
will appear in the greatest purity, a purity that has either
no consciousness or consciousness without limit: either
the jointed doll or the god.”

“Therefore,” I said, a little distracted, “we must eat
from the tree of knowledge again and fall back into a
state of innocence.”

“By all means,” he replied, “that is the last chapter in
the history of the world.”
Chapter 1: Arrest—Conversation with Mrs. Grubach—Then Miss Bürstner

Someone must have been telling lies about Josef K., he knew he had done nothing wrong but, one morning, he was arrested. Every day at eight in the morning he was brought his breakfast by Mrs. Grubach’s cook—Mrs. Grubach was his landlady—but today she didn’t come. That had never happened before. K. waited a little while, looked from his pillow at the old woman who lived opposite and who was watching him with an inquisitiveness quite unusual for her, and finally, both hungry and disconcerted, rang the bell. There was immediately a knock at the door and a man entered. He had never seen the man in this house before. He was slim but firmly built, his clothes were black and close-fitting, with many folds and pockets, buckles and buttons and a belt, all of which gave the impression of being very practical but without making it very clear what they were actually for. “Who are you?” asked K., sitting half up-right in his bed. The man, however, ignored the question as if his arrival simply had to be accepted, and merely replied, “You rang?” “Anna should have brought me my breakfast,” said K. He tried to work out who the man actually was, first in silence, just through observation and by thinking about it, but the man didn’t stay still to be looked at for very long. Instead he went over to the door, opened it slightly, and said to someone who was clearly standing immediately behind it, “He wants Anna to bring him his breakfast.” There was a little laughter in the neighbouring room, it was not clear from the sound of it whether there were several people laughing. The strange man could not have learned anything from it that he hadn’t known already, but now he said to K., as if making his report “It is not possible.” “It would be the first time that’s happened,” said K., as he jumped out of bed and quickly pulled on his trousers. “I want to see who that is in the next room, and why it is that Mrs. Grubach has let me be disturbed in this way.” It immediately occurred to him that he needn’t have said this out loud, and that he must to some extent have acknowledged their authority by doing so, but that didn’t seem important to him at the time. That, at least, is how the stranger took it, as he said, “Don’t you think you’d better stay where you are?” “I want neither to stay here nor to be spoken to by you until you’ve introduced yourself.” “I meant it for your own good,” said the stranger and opened the door, this time without being asked. The next room, which K. entered more slowly than he had intended, looked at first glance exactly the same as it had the previous evening. It was Mrs. Grubach’s living room, over-filled with furniture, tablecloths, porcelain and photographs. Perhaps there was a little more space in there than usual today, but if so it was not immediately obvious, especially as the main difference was the presence of a man sitting by the open window with a book from which he now looked up. “You should have stayed in your room! Didn’t Franz tell you?” “And what is it you want, then?” said K., looking back and forth between this new acquaintance and the one named Franz, who had remained in the doorway. Through the open window he noticed the old woman again, who had come close to the window opposite so that she could continue to see everything. She was showing an inquisitiveness that really made it seem like she was going senile. “I want to see Mrs. Grubach . . .” said K., making a movement as if tearing himself away from the two men—even though they were standing well away from him—and wanted to go. “No,” said the man at the window, who threw his book down on a coffee table and stood up. “You can’t go away when you’re under arrest.” “That’s how it seems,” said K. “And why am I under arrest?” he then asked. “That’s something we’re not allowed to tell you. Go into your room and wait there. Proceedings are underway and you’ll learn about everything all in good time. It’s not really part of my job to be friendly towards you like this, but I hope no-one, apart from Franz, will hear about it, and he’s been more friendly towards you than he should have been, under the rules, himself. If you carry on having as much good luck as you have been with your arresting officers then you can reckon on things going well with you.” K. wanted to sit down, but then he saw that, apart from the chair by the window, there...
was nowhere anywhere in the room where he could sit. “You’ll get the chance to see for yourself how true all this is,” said Franz and both men then walked up to K. They were significantly bigger than him, especially the second man, who frequently slapped him on the shoulder. The two of them felt K.’s nightshirt, and said he would now have to wear one that was of much lower quality, but that they would keep the nightshirt along with his other underclothes and return them to him if his case turned out well. “It’s better for you if you give us the things than if you leave them in the storeroom,” they said. “Things have a tendency to go missing in the storeroom, and after a certain amount of time they sell things off, whether the case involved has come to an end or not. And cases like this can last a long time, especially the ones that have been coming up lately. They’d give you the money they got for them, but it wouldn’t be very much as it’s not what they’re offered for them when they sell them that counts, it’s how much they get slipped on the side, and things like that lose their value anyway when they get passed on from hand to hand, year after year.” K. paid hardly any attention to what they were saying, he did not place much value on what he may have still possessed or on who decided what happened to them. It was much more important to him to get a clear understanding of his position, but he could not think clearly while these people were here, the second policeman’s belly—and they could only be policemen—looked friendly enough, sticking out towards him, but when K. looked up and saw his dry, boney face it did not seem to fit with the body. His strong nose twisted to one side as if ignoring K. and sharing an understanding with the other policeman. What sort of people were these? What were they talking about? What office did they belong to? K. was living in a free country, after all, everywhere was at peace, all laws were decent and were upheld, who was it who dared accuse him in his own home? He was always inclined to take life as lightly as he could, to cross bridges when he came to them, pay no heed for the future, even when everything seemed under threat. But here that did not seem the right thing to do. He could have taken it all as a joke, a big joke set up by his colleagues at the bank for some unknown reason, or also perhaps because today was his thirtieth birthday, it was all possible of course, maybe all he had to do was laugh in the policemen’s face in some way and they would laugh with him, maybe they were tradesmen from the corner of the street, they looked like they might be—but he was nonetheless determined, ever since he first caught sight of the one called Franz, not to lose any slight advantage he might have had over these people. There was a very slight risk that people would later say he couldn’t understand a joke, but—although he wasn’t normally in the habit of learning from experience—he might also have had a few unimportant occasions in mind when, unlike his more cautious friends, he had acted with no thought at all for what might follow and had been made to suffer for it. He didn’t want that to happen again, not this time at least; if they were play-acting he would act along with them. He still had time. “Allow me,” he said, and hurried between the two policemen through into his room. “He seems sensible enough,” he heard them say behind him. Once in his room, he quickly pulled open the drawer of his writing desk, everything in it was very tidy but in his agitation he was unable to find the identification documents he was looking for straight away. He finally found his bicycle permit and was about to go back to the policemen with it when it seemed to him too petty, so he carried on searching until he found his birth certificate. Just as he got back in the adjoining room the door on the other side opened and Mrs. Grubach was about to enter. He only saw her for an instant, for as soon as she recognised K. she was clearly embarrassed, asked for forgiveness and disappeared, closing the door behind her very carefully. “Do come in,” K. could have said just then. But now he stood in the middle of the room with his papers in his hand and still looking at the door which did not open again. He stayed like that until he was startled out of it by the shout of the policeman who sat at the little table at the open window and, as K. now saw, was eating his breakfast. “Why didn’t she come in?” he asked. “She’s not allowed to,” said the big policeman. “You’re under arrest, aren’t you.” “But how can I be under arrest? And how come it’s like this?” “Now you’re starting again,” said the policeman, dipping a piece of buttered bread in the honey. “We don’t answer questions like that.” “You will have to answer them,” said K. “Here are my identification papers, now show me yours and I certainly want to see the arrest warrant.” “Oh, my God!” said the policeman. “In a position like yours, and you think you can start giving orders, do you? It won’t do you any good to get us on the wrong side, even if you think it will—we’re probably more on your side that anyone else you know!” “That’s true, you know, you’d better believe it,” said Franz, holding a cup of coffee in his hand which he did not lift to his mouth but looked at K. in a way that was probably meant to be full of meaning but could not actually be understood. K. found himself, without intending it, in a mute dialogue with Franz, but then slapped his hand down on his papers and said, “Here are my identity documents.” “And what do you want us to do about it?” replied the big policeman, loudly. “The way you’re carrying on, it’s worse than a child. What is it you want? Do you want to get this great, bloody trial of yours over with quickly by talking about ID and arrest warrants with us? We’re just coppers, that’s all we are. Junior officers like
us hardly know one end of an ID card from another, all
we’ve got to do with you is keep an eye on you for ten
hours a day and get paid for it. That’s all we are. Mind
you, what we can do is make sure that the high officials
we work for find out just what sort of person it is they’re
going to arrest, and why he should be arrested, before
they issue the warrant. There’s no mistake there. Our
authorities as far as I know, and I only know the lowest
grades, don’t go out looking for guilt among the public:
it’s the guilt that draws them out, like it says in the law,
and they have to send us police officers out. That’s the
law. Where d’you think there’d be any mistake there?”
“I don’t know this law,” said K. “So much the worse for
you, then,” said the policeman. “It’s probably exists only
in your heads,” said K., he wanted, in some way, to in-
sinuate his way into the thoughts of the policemen, to
re-shape those thoughts to his benefit or to make himself
at home there. But the policeman just said dismissively,
“You’ll find out when it affects you.” Franz joined in,
and said, “Look at this, Willem, he admits he doesn’t
know the law and at the same time insists he’s innocent.”
“You’re quite right, but we can’t get him to understand a
thing,” said the other. K. stopped talking with them; do I,
he thought to himself, do I really have to carry on get-
ing tangled up with the chattering of base functionaries
like this?—and they admit themselves that they are of the
lowest position. They’re talking about things of which
they don’t have the slightest understanding, anyway. It’s
only because of their stupidity that they’re able to be so
sure of themselves. I just need few words with some-
one of the same social standing as myself and everything
will be incomparably clearer, much clearer than a long
conversation with these two can make it. He walked up
and down the free space in the room a couple of times,
across the street he could see the old woman who, now,
had pulled an old man, much older than herself, up to
the window and had her arms around him. K. had to
put an end to this display, “Take me to your superior,”
he said. “As soon as he wants to see you. Not before,”
said the policeman, the one called Willem. “And now my
advice to you,” he added, “is to go into your room, stay
calm, and wait and see what’s to be done with you. If
you take our advice, you won’t tire yourself out think-
ing about things to no purpose, you need to pull yourself
together as there’s a lot that’s going to required of you.
You’ve not behaved towards us the way we deserve after
being so good to you, you forget that we, whatever we
are, we’re still free men and you’re not, and that’s quite
an advantage. But in spite of all that we’re still willing, if
you’ve got the money, to go and get you some breakfast
from the caf over the road.”

Without giving any answer to this offer, K. stood still
for some time. Perhaps, if he opened the door of the next
room or even the front door, the two of them would not
dare to stand in his way, perhaps that would be the sim-
plest way to settle the whole thing, by bringing it to a
head. But maybe they would grab him, and if he were
thrown down on the ground he would lose all the advan-
tage he, in a certain respect, had over them. So he de-
cided on the more certain solution, the way things would
.go in the natural course of events, and went back in his
room without another word either from him or from the
policemen.

He threw himself down on his bed, and from the dress-
ing table he took the nice apple that he had put there the
previous evening for his breakfast. Now it was all the
breakfast he had and anyway, as he confirmed as soon
as he took his first, big bite of it, it was far better than a
breakfast he could have had through the good will of the
policemen from the dirty caf. He felt well and confident,
he had failed to go into work at the bank this morning
but that could easily be excused because of the relatively
high position he held there. Should he really send in his
explanation? He wondered about it. If nobody believed
him, and in this case that would be understandable, he
could bring Mrs. Grubach in as a witness, or even the old
pair from across the street, who probably even now were
on their way over to the window opposite. It puzzled
K., at least it puzzled him looking at it from the police-
men’s point of view, that they had made him go into the
room and left him alone there, where he had ten differ-
ent ways of killing himself. At the same time, though,
he asked himself, this time looking at it from his own
point of view, what reason he could have to do so. Be-
cause those two were sitting there in the next room and
had taken his breakfast, perhaps? It would have been so
pointless to kill himself that, even if he had wanted to, the
pointlessness would have made him unable. Maybe, if
the policemen had not been so obviously limited in their
mental abilities, it could have been supposed that they
had come to the same conclusion and saw no danger in
leaving him alone because of it. They could watch now,
if they wanted, and see how he went over to the cupboard
in the wall where he kept a bottle of good schnapps, how
he first emptied a glass of it in place of his breakfast and
how he then took a second glassful in order to give him-
self courage, the last one just as a precaution for the un-
likely chance it would be needed.

Then he was so startled by a shout to him from the
other room that he struck his teeth against the glass.
“The supervisor wants to see you!” a voice said. It was
only the shout that startled him, this curt, abrupt, mili-
tary shout, that he would not have expected from the po-
iceman called Franz. In itself, he found the order very
welcome. “At last!” he called back, locked the cupboard
and, without delay, hurried into the next room. The two

FRANZ KAFKA

The Trial: Chapter 1
stood a man with an open shirt that showed his chest and was the old pair again, although now their number had a white blouse. At the window across the street, there was the backrest of the chair. Hung up on the handle of the open window was Bürstner that had been put into a piece of fabric on the wall. People looking at the photographs belonging to Miss knew very well that this room had recently been let to a typist called 'Miss Bürstner'. She was in the habit of going out to work very early and coming back home very late, and K. had never exchanged more than a few words of greeting with her. Now, her bedside table had been pulled into the middle of the room to be used as a desk. He watched them to see if they might react to the present proceedings, and the supervisor sat behind it. He secretly told himself that he had succeeded in speeding things up by letting the policemen forget to make him have a bath. He watched them to see if they might remember after all, but of course it never occurred to them, although Willem did not forget to send Franz up to the supervisor with the message saying that K. was getting dressed.

Once he was properly dressed, K. had to pass by Willem as he went through the next room into the one beyond, the door of which was already wide open. K. knew very well that this room had recently been let to a typist called 'Miss Bürstner'. She was in the habit of going out to work very early and coming back home very late, and K. had never exchanged more than a few words of greeting with her. Now, her bedside table had been pulled into the middle of the room to be used as a desk for these proceedings, and the supervisor sat behind it. He had his legs crossed, and had thrown one arm over the backrest of the chair.

In one corner of the room there were three young people looking at the photographs belonging to Miss Bürstner that had been put into a piece of fabric on the wall. Hung up on the handle of the open window was a white blouse. At the window across the street, there was the old pair again, although now their number had increased, as behind them, and far taller than they were, stood a man with an open shirt that showed his chest and a reddish goatee beard which he squeezed and twisted with his fingers. "Josef K.?", asked the supervisor, perhaps merely to attract K.'s attention as he looked round the room. K. nodded. "I daresay you were quite surprised by all that's been taking place this morning," said the supervisor as, with both hands, he pushed away the few items on the bedside table—the candle and box of matches, a book and a pin cushion which lay there as if they were things he would need for his own business. "Certainly," said K., and he began to feel relaxed now that, at last, he stood in front of someone with some sense, someone with whom he would be able to talk about his situation. "Certainly I'm surprised, but I'm not in any way very surprised." "You're not very surprised?" asked the supervisor, as he positioned the candle in the middle of the table and the other things in a group around it. "Perhaps you don't quite understand me," K. hurriedly pointed out. "What I mean is..." here K. broke off what he was saying and looked round for somewhere to sit. "I may sit down, mayn't I?" he asked. "That's not usual," the supervisor answered. "What I mean is..." said K. without delaying a second time, "that, yes, I am very surprised but when you've been in the world for thirty years already and had to make your own way through everything yourself, which has been my lot, then you become hardened to surprises and don't take them too hard. Especially not what's happened today." "Why especially not what's happened today?" "I wouldn't want to say that I see all of this as a joke, you seem to have gone to too much trouble making all these arrangements for that. Everyone in the house must be taking part in it as well as all of you, that would be going beyond what could be a joke. So I don't want to say that this is a joke." " Quite right," said the supervisor, looking to see how many matches were left in the box. "But on the other hand," K. went on, looking round at everyone there and even wishing he could get the attention of the three who were looking at the photographs, "on the other hand this really can't be all that important. That follows from the fact that I've been indicted, but can't think of the slightest offence for which I could be indicted. But even that is all beside the point, the main question is: Who is issuing the indictment? What office is conducting this affair? Are you officials? None of you is wearing a uniform, unless what you are wearing"—here he turned towards Franz—"is meant to be a uniform, it's actually more of a travelling suit. I require a clear answer to all these questions, and I'm quite sure that once things have been made clear we can take our leave of each other on the best of terms." The supervisor slammed the box of matches down on the table. "You're making a big mistake," he said. "These gentlemen and I have got nothing to do with your business, in fact we know almost nothing about you. We
could be wearing uniforms as proper and exact as you like and your situation wouldn’t be any the worse for it. As to whether you’re on a charge, I can’t give you any sort of clear answer to that, I don’t even know whether you are or not. You’re under arrest, you’re quite right about that, but I don’t know any more than that. Maybe these officers have been chit-chatting with you, well if they have that’s all it is, chit-chat. I can’t give you an answer to your questions, but I can give you a bit of advice: You’d better think less about us and what’s going to happen to you, and think a bit more about yourself. And stop making all this fuss about your sense of innocence; you don’t make such a bad impression, but with all this fuss you’re damaging it. And you ought to do a bit less talking, too. Almost everything you’ve said so far has been things we could have taken from your behaviour, even if you’d said no more than a few words. And what you have said has not exactly been in your favour.”

K. stared at the supervisor. Was this man, probably younger than he was, lecturing him like a schoolmaster? Was he being punished for his honesty with a telling off? And was he to learn nothing about the reasons for his arrest or those who were arresting him? He became somewhat cross and began to walk up and down. No one stopped him doing this and he pushed his sleeves back, felt his chest, straightened his hair, went over to the three men, said, “It makes no sense,” at which these three turned round to face him and came towards him with serious expressions. He finally came again to a halt in front of the supervisor’s desk. “State Attorney Hasterer is a good friend of mine,” he said, “can I telephone him?” “Certainly,” said the supervisor, “but I don’t know what the point of that will be, I suppose you must have some private matter you want to discuss with him.”

“What the point is?” shouted K., more disconcerted than cross. “Who do you think you are? You want to see me is over with. In my opinion, it’s best now to stop wondering about whether you’re proceeding correctly or incorrectly, and to bring the matter to a peaceful close with a mutual handshake. If you are of the same opinion, then please…” and he walked up to the supervisor’s desk and held out his hand to him. The supervisor raised his eyes, bit his lip and looked at K.’s outstretched hand; K still held out his hand to him. The supervisor raised his eyes, bit his lip and looked at K.’s outstretched hand; K still believed the supervisor would do as he suggested. But instead, he stood up, picked up a hard round hat that was laying on Miss Bürstner’s bed and put it carefully onto his head, using both hands as if trying on a new hat. “Everything seems so simple to you, doesn’t it,” he said to K. as he did so, “so you think we should bring the matter to a peaceful close, do you. No, no, that won’t do. Mind you, on the other hand I certainly wouldn’t want you to think there’s no hope for you. No, why should you think that? You’re simply under arrest, nothing more than that. That’s what I had to tell you, that’s what I’ve done and now I’ve seen how you’ve taken it. That’s enough for one day and we can take our leave of each other, for the time being at least. I expect you’ll want to go in to the bank now, won’t you.” “In to the bank?” asked K., “I thought I was under arrest.” K. said this with a certain amount of defiance as, although his handshake had not been accepted, he was feeling more independent of all these people, especially since the supervisor had stood up. He was playing with them. If they left, he had decided he would run after them and offer to let them arrest him. That’s why he even repeated, “How can I go in to the bank when I’m under arrest?” “I see you’ve misun-
derstood me,” said the supervisor who was already at the
door. “It’s true that you’re under arrest, but that shouldn’t
stop you from carrying on your job. And there shouldn’t
be anything to stop you carrying on with your usual life.”
“In that case it’s not too bad, being under arrest,” said K.,
and went up close to the supervisor. “I never meant it
should be anything else,” he replied. “It hardly seems to
have been necessary notify me of the arrest in that case;”
said K., and went even closer. The others had also come
closer. All of them had gathered together into a narrow
space by the door. “That was my duty,” said the super-
visor. “A silly duty,” said K., unyielding. “Maybe so;”
replied the supervisor, “only don’t let’s waste our time
talking on like this. I had assumed you’d be wanting to
go to the bank. As you’re paying close attention to every
word I’ll add this: I’m not forcing you to go to the bank,
I’d just assumed you wanted to. And to make things eas-
er for you, and to let you get to the bank with as little fuss
as possible I’ve put these three gentlemen, colleagues of
yours, at your disposal.” “What’s that!” exclaimed K.,
and looked at the three in astonishment. He could only
remember seeing them in their group by the photographs,
but these characterless, anaemic young people were in-
deed officials from his bank, not colleagues of his, that
was putting it too high and it showed a gap in the omni-
sience of the supervisor, but they were nonetheless ju-
ior members of staff at the bank. How could K. have
failed to see that? How occupied he must have been with
the supervisor and the policemen not to have recognised
these three! Rabensteiner, with his stiff demeanour and
swinging hands, Kullich, with his blonde hair and deep-
set eyes, and Kaminer, with his involuntary grin caused
by chronic muscle spasms. “Good morning,” said K. af-
after a while, extending his hand to the gentlemen as they
bowed correctly to him. “I didn’t recognise you at all.
So, we’ll go into work now, shall we?” The gentlemen
laughed and nodded enthusiastically, as if that was what
they had been waiting for all the time, except that K. had
left his hat in his room so they all dashed, one after an-
other, into the room to fetch it, which caused a certain
amount of embarrassment. K. stood where he was and
watched them through the open double doorway, the last
to go, of course, was the apathetic Rabensteiner who had
broken into no more than an elegant trot. Kaminer got to
the hat and K., as he often had to do at the bank, forcibly
reminded himself that the grin was not deliberate, that he
in fact wasn’t able to grin deliberately. At that moment
Mrs. Grubach opened the door from the hallway into the
living room where all the people were. She did not seem
to feel guilty about anything at all, and K., as often be-
fore, looked down at the belt of her apron which, for no
reason, cut so deeply into her hefty body. Once down-
stairs, K., with his watch in his hand, decided to take
a taxi—he had already been delayed by half an hour and
there was no need to make the delay any longer. Kaminer
ran to the corner to summon it, and the two others were
making obvious efforts to keep K. diverted when Kullich
pointed to the doorway of the house on the other side
of the street where the large man with the blonde goatee
beard appeared and, a little embarrassed at first at letting
himself be seen in his full height, stepped back to the
wall and leant against it. The old couple were probably
still on the stairs. K. was cross with Kullich for pointing
out this man whom he had already seen himself, in fact
whom he had been expecting. “Don’t look at him!” he
snapped, without noticing how odd it was to speak to free
men in this way. But there was no explanation needed
anyway as just then the taxi arrived, they sat inside and
set off. Inside the taxi, K. remembered that he had not
noticed the supervisor and the policemen leaving—the
supervisor had stopped him noticing the three bank staff
and now the three bank staff had stopped him noticing
the supervisor. This showed that K. was not very atten-
tive, and he resolved to watch himself more carefully in
this respect. Nonetheless, he gave it no thought as he
twisted himself round and leant over onto the rear shelf
of the car to catch sight of the supervisor and the police-
men if he could. But he turned back round straight away
and leant comfortably into the corner of the taxi with-
out even having made the effort to see anyone. Although
it did not seem like it, now was just the time when he
needed some encouragement, but the gentlemen seemed
tired just then, Rabensteiner looked out of the car to the
right, Kullich to the left and only Kaminer was there with
his grin at K.’s service. It would have been inhumane to
make fun of that.

That spring, whenever possible, K. usually spent his
evenings after work—he usually stayed in the office un-
til nine o’clock—with a short walk, either by himself or
in the company of some of the bank officials, and then
he would go into a pub where he would sit at the regu-
lars’ table with mostly older men until eleven. There
were, however, also exceptions to this habit, times, for
instance, when K. was invited by the bank’s manager
(whom he greatly respected for his industry and trust-
worthiness) to go with him for a ride in his car or to eat
dinner with him at his large house. K. would also go,
once a week, to see a girl called Elsa who worked as a
waitress in a wine bar through the night until late in the
morning. During the daytime she only received visitors
while still in bed.

That evening, though,—the day had passed quickly
with a lot of hard work and many respectful and friendly
birthday greetings—K. wanted to go straight home. Each
time he had any small break from the day’s work he con-
sidered, without knowing exactly what he had in mind,
that Mrs. Grubach’s flat seemed to have been put into great disarray by the events of that morning, and that it was up to him to put it back into order. Once order had been restored, every trace of those events would have been erased and everything would take its previous course once more. In particular, there was nothing to fear from the three bank officials, they had immersed themselves back into their paperwork and there was no alteration to be seen in them. K. had called each of them, separately or all together, into his office that day for no other reason than to observe them; he was always satisfied and had always been able to let them go again.

At half past nine that evening, when he arrived back in front of the building where he lived, he met a young lad in the doorway who was standing there, his legs apart and smoking a pipe. “Who are you?” immediately asked K., bringing his face close to the lad’s, as it was hard to see in the half light of the landing. “I’m the landlord’s son, sir,” answered the lad, taking the pipe from his mouth and stepping to one side. “The landlord’s son?” asked K., and impatiently knocked on the ground with his stick. “Did you want anything, sir? Would you like me to fetch my father?” “No, no,” said K., there was something forgiving in his voice, as if the boy had harmed him in some way and he was excusing him. “It’s alright,” he said then, and went on, but before going up the stairs he turned round once more.

He could have gone directly to his room, but as he wanted to speak with Mrs. Grubach he went straight to her door and knocked. She was sat at the table with a knitted stocking and a pile of old stockings in front of her. K. apologised, a little embarrassed at coming so late, but Mrs. Grubach was very friendly and did not want to hear any apology, she was always ready to speak to him, and smiled at K. in a way that was almost pained. “Do you mean that seriously?” asked K. “Yes,” she said, more gently, “but the important thing is you mustn’t take it too hard. There are so many awful things happening in the world! As you’re being so honest with me, Mr. K., I can admit to you that I listened to a little of what was going on from behind the door, and that those two policemen told me one or two things as well. It’s all to do with your happiness, and that’s something that’s quite close to my heart, perhaps more than it should be as I am, after all, only your landlady. Anyway, so I heard one or two things but I can’t really say that it’s about anything very serious. No. You have been arrested, but it’s not in the same way as when they arrest a thief. If you’re arrested in the same way as a thief, then it’s bad, but an arrest like this . . . . It seems to me that it’s something very complicated—forgive me if I’m saying something stupid—something very complicated that I don’t understand, but something that you don’t really need to understand anyway.”

“There’s nothing stupid about what you’ve said, Mrs. Grubach, or at least I partly agree with you, only, the way I judge the whole thing is harsher than yours, and think it’s not only not something complicated but simply a fuss about nothing. I was just caught unawares, that’s what happened. If I had got up as soon as I was awake without letting myself get confused because Anna wasn’t there, if I’d got up and paid no regard to anyone who might have been in my way and come straight to you, if I’d done something like having my breakfast in the kitchen as an exception, asked you to bring my clothes from my room, in short, if I had behaved sensibly then nothing more would have happened, everything that was waiting to happen would have been stifled. People are so often unprepared. In the bank, for example, I am well prepared, nothing of this sort could possibly happen to me there, I have my own assistant there, there are telephones for internal and external calls in front of me on the desk, I continually receive visits from people, representatives, officials, but besides that, and most importantly, I’m always occupied with my work, that’s to say I’m always alert, it would even be a pleasure for me to find myself faced with something of that sort. But now it’s over with, and I didn’t really even want to talk about it any more, only I wanted to hear what you, as a sensible woman, thought about it all, and I’m very glad to hear that we’re
in agreement. But now you must give me your hand, an agreement of this sort needs to be confirmed with a handshake.

Will she shake hands with me? The supervisor didn’t shake hands, he thought, and looked at the woman differently from before, examining her. She stood up, as he had also stood up, and was a little self-conscious, she hadn’t been able to understand everything that that K. said. As a result of this self-consciousness she said something that she certainly did not intend and certainly was not appropriate. “Don’t take it so hard, Mr. K.,” she said, with tears in her voice and also, of course, forgetting the handshake. “I didn’t know I was taking it hard,” said K., feeling suddenly tired and seeing that if this woman did agree with him it was of very little value.

Before going out the door he asked, “Is Miss Bürstner home?” “No,” said Mrs. Grubach, smiling as she gave this simple piece of information, saying something sensible at last. “She’s at the theatre. Did you want to see her? Should I give her a message?” “I, er, I just wanted to have a few words with her.” “I’m afraid I don’t know when she’s coming in; she usually gets back late when she’s been to the theatre.” “It really doesn’t matter,” said K. his head hanging as he turned to the door to leave. “I just wanted to give her my apology for taking over her room today.” “There’s no need for that, Mr. K., you’re too conscientious, the young lady doesn’t know anything about it, she hasn’t been home since early this morning and everything’s been tidied up again, you can see for yourself.” And she opened the door to Miss Bürstner’s room. “Thank you, I’ll take your word for it,” said K., but went nonetheless over to the open door. The moon shone quietly into the unlit room. As far as could be seen, everything was indeed in its place, not even the blouse was hanging on the window handle. The pillows on the bed looked remarkably plump as they lay half in the moonlight. “Miss Bürstner often comes home late,” said K., looking at Mrs. Grubach as if that were her responsibility. “That’s how young people are!” said Mrs. Grubach in to excuse herself. “Of course, of course,” said K., “but it can be taken too far.” “Yes, it can be,” said Mrs. Grubach, “you’re so right, Mr. K. Perhaps it is in this case. I certainly wouldn’t want to say anything nasty about Miss Bürstner, she is a good, sweet girl, friendly, tidy, punctual, works hard, I appreciate all that very much, but one thing is true, she ought to have more pride, be a bit less forthcoming. Twice this month already, in the street over the way, I’ve seen her with a different gentleman. I really don’t like saying this, you’re the only one I’ve said this to, Mr. K., I swear to God, but I’m going to have no choice but to have a few words with Miss Bürstner about it myself. And it’s not the only thing about her that I’m worried about.” “Mrs. Grubach, you are on quite the wrong track,” said K., so angry that he was hardly able to hide it, “and you have moreover misunderstood what I was saying about Miss Bürstner, that is not what I meant. In fact I warn you quite directly not to say anything to her, you are quite mistaken, I know Miss Bürstner very well and there is no truth at all in what you say. And what’s more, perhaps I’m going to far. I don’t want to get in your way, say to her whatever you see fit. Good night.” “Mr. K.,” said Mrs. Grubach as if asking him for something and hurrying to his door which he had already opened, “I don’t want to speak to Miss Bürstner at all, not yet, of course I’ll continue to keep an eye on her but you’re the only one I’ve told what I know. And it is, after all something that everyone who lets rooms has to do if she’s to keep the house decent, that’s all I’m trying to do.” “Decent!” called out K. through the crack in the door, “if you want to keep the house decent you’ll first have to give me notice.” Then he slammed the door shut, there was a gentle knocking to which he paid no more attention.

He did not feel at all like going to bed, so he decided to stay up, and this would also give him the chance to find out when Miss Bürstner would arrive home. Perhaps it would also still be possible, even if a little inappropriate, to have a few words with her. As he lay there by the window, pressing his hands to his tired eyes, he even thought for a moment that he might punish Mrs. Grubach by persuading Miss Bürstner to give in her notice at the same time as he would. But he immediately realised that that would be shockingly excessive, and there would even be the suspicion that he was moving house because of the incidents of that morning. Nothing would have been more nonsensical and, above all, more pointless and contemptible.

When he had become tired of looking out onto the empty street he slightly opened the door to the living room so that he could see anyone who entered the flat from where he was and lay down on the couch. He lay there, quietly smoking a cigar, until about eleven o’clock. He wasn’t able to hold out longer than that, and went a little way into the hallway as if in that way he could make Miss Bürstner arrive sooner. He had no particular desire for her, he could not even remember what she looked like, but now he wanted to speak to her and it irritated him that her late arrival home meant this day would be full of unease and disorder right to its very end. It was also her fault that he had not had any dinner that evening. He did not feel at all like going to bed, so he decided to stay up, and this would also give him the chance to find out when Miss Bürstner would arrive home. Perhaps it would also still be possible, even if a little inappropriate, to have a few words with her. As he lay there by the window, pressing his hands to his tired eyes, he even thought for a moment that he might punish Mrs. Grubach by persuading Miss Bürstner to give in her notice at the same time as he would. But he immediately realised that that would be shockingly excessive, and there would even be the suspicion that he was moving house because of the incidents of that morning. Nothing would have been more nonsensical and, above all, more pointless and contemptible.

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could be heard in the stairway. K., who had been lost in his thoughts in the hallway, walking up and down loudly as if it were his own room, fled behind his door. Miss Bürstner had arrived. Shivering, she pulled a silk shawl over her slender shoulders as she locked the door. The next moment she would certainly go into her room, where K. ought not to intrude in the middle of the night. That meant he would have to speak to her now, but, unfortunately, he had not put the electric light on in his room so that when he stepped out of the dark it would give the impression of being an attack and would certainly, at the very least, have been quite alarming. There was no time to lose, and in his helplessness he whispered through the crack of the door, “Miss Bürstner.” It sounded like he was pleading with her, not calling to her. “Is there someone there?” asked Miss Bürstner, looking round with her eyes wide open. “It’s me,” said K. and came out. “Oh, Mr. K.!” said Miss Bürstner with a smile. “Good Evening,” and offered him her hand. “I wanted to have a word with you, if you would allow me?” “Now?” asked Miss Bürstner, “does it have to be now? It is a little odd, isn’t it?” “I’ve been waiting for you since nine o’clock.” “Well, I was at the theatre, I didn’t know anything about you waiting for me.” “The reason I need to speak to you only came up today” “I see, well I don’t see why not, I suppose, apart from being so tired I could drop. Come into my room for a few minutes then. We certainly can’t talk out here, we’d wake everyone up and I think that would be more unpleasant for us than for them. Wait here till I’ve put the light on in my room, and then turn the light down out here.” K. did as he was told, and then even waited until Miss Bürstner came out of her room and quietly invited him, once more, to come in. “Sit down,” she said, indicating the ottoman, while she herself remained standing by the bedpost despite the tiredness she had spoken of; she did not even take off her hat, which was small but decorated with an abundance of flowers. “What is it you wanted, then? I’m really quite curious.” She gently crossed her legs. “I expect you’ll say,” K. began, “that the matter really isn’t all that urgent and we don’t need to talk about it right now, but…” “I never listen to introductions,” said Miss Bürstner. “That makes my job so much easier,” said K. “This morning, to some extent through my fault, your room was made a little untidy, this happened because of people I did not know and against my will but, as I said, because of my fault; I wanted to apologise for it.” “My room?” asked Miss Bürstner, and instead of looking round the room scrutinised K. “It is true,” said K., and now, for the first time, they looked each other in the eyes, “there’s no point in saying exactly how this came about.” “But that’s the interesting thing about it,” said Miss Bürstner. “No,” said K. “Well then,” said Miss Bürstner, “I don’t want to force my way into any secrets, if you insist that it’s of no interest I won’t insist. I’m quite happy to forgive you for it, as you ask, especially as I can’t see anything at all that’s been left untidy.” With her hand laid flat on her lower hip, she made a tour around the room. At the mat where the photographs were she stopped. “Look at this!” she cried. “My photographs really have been put in the wrong places. Oh, that’s horrible. Someone really has been in my room without permission.” K. nodded, and quietly cursed Kaminer who worked at his bank and who was always active doing things that had neither use nor purpose. “It is odd,” said Miss Bürstner, “that I’m forced to forbid you to do something that you ought to have forbidden yourself to do, namely to come into my room when I’m not here.” “But I did explain to you,” said K., and went over to join her by the photographs, “that it wasn’t me who interfered with your photographs; but as you don’t believe me I’ll have to admit that the investigating committee brought along three bank employees with them, one of them must have touched your photographs and as soon as I get the chance I’ll ask to have him dismissed from the bank. Yes, there was an investigating committee here,” added K., as the young lady was looking at him enquiringly. “Because of you?” she asked. “Yes,” answered K. “No!” the lady cried with a laugh. “Yes, they were,” said K., “you believe that I’m innocent then, do you?” “Well now, innocent…” said the lady, “I don’t want to start making any pronouncements that might have serious consequences, I don’t really know you after all, it means they’re dealing with a serious criminal if they send an investigating committee straight out to get him. But you’re not in custody now—at least I take it you’ve not escaped from prison considering that you seem quite calm—so you can’t have committed any crime of that sort.” “Yes,” said K., “but it might be that the investigating committee could see that I’m innocent, or not so guilty as had been supposed.” “Yes, that’s certainly a possibility,” said Miss Bürstner, who seemed very interested. “Listen,” said K., “you don’t have much experience in legal matters,” “No, that’s true, I don’t,” said Miss Bürstner, “and I’ve often regretted it, as I’d like to know everything and I’m very interested in legal matters. There’s something peculiarly attractive about the law, isn’t there? But I’ll certainly be perfecting my knowledge in this area, as next month I start work in a legal office.” “That’s very good,” said K., “that means you’ll be able to give me some help with my trial.” “That could well be,” said Miss Brüster, “why not? I like to make use of what I know.” “I mean it quite seriously,” said K., “or at least, half seriously, as you do. This affair is too petty to call in a lawyer, but I could make good use of someone who could give me advice.” “Yes, but if I’m to give you advice I’ll have to know what it’s all
about,” said Miss Brüstner. “That’s exactly the problem,” said K., “I don’t know that myself.” “So you have been making fun of me, then,” said Miss Brüstner exceedingly disappointed, “you really ought not to try something like that on at this time of night.” And she stepped away from the photographs where they had stood so long together. “Miss Brüstner, no,” said K., “I’m not making fun of you. Please believe me! I’ve already told you everything I know. More than I know, in fact, as it actually wasn’t even an investigating committee, that’s just what I called them because I don’t know what else to call them. There was no cross questioning at all, I was merely arrested, but by a committee.” Miss Brüstner sat on the ottoman and laughed again. “What was it like then?” she asked. “It was terrible,” said K., although his mind was no longer on the subject, he had become totally absorbed by Miss Brüstner’s gaze who was supporting her chin on one hand—the elbow rested on the cushion of the ottoman—and slowly stroking her hip with the other. “That’s too vague,” said Miss Brüstner. “What’s too vague?” asked K. Then he remembered himself and asked, “Would you like me to show you what it was like?” He wanted to move in some way but did not want to leave. “I’m already tired,” said Miss Brüstner. “You arrived back so late,” said K. “Now you’ve started telling me off. Well I suppose I deserve it as I shouldn’t have let you in here in the first place, and it turns out there wasn’t even any point.” “Oh, there was a point, you’ll see now how important a point it was,” said K. “May I move this table away from your bedside and put it here?” “What do you think you’re doing?” said Miss Brüstner. “Of course you can’t!” “In that case I can’t show you,” said K., quite upset, as if Miss Brüstner had committed some incomprehensible offence against him. “Alright then, if you need it to show what you mean, just take the bedside table then,” said Miss Brüstner, and after a short pause added in a weak voice, “I’m so tired I’m allowing more than I ought to.” K. put the little table in the middle of the room and sat down behind it. “You have to get a proper idea of where the people were situated, it is very interesting. I’m the supervisor, sitting over there on the chest are two policemen, standing next to the photographs there are three young people. Hanging on the handle of the window is a white blouse—I just mention that by the way. And now it begins. Ah yes, I’m forgetting myself, the most important person of all, so I’m standing here in front of the table. The supervisor is sitting extremely comfortably with his legs crossed and his arm hanging over the backrest here like some layabout. And now it really does begin, the supervisor calls out as if he had to wake me up, in fact he shouts at me, I’m afraid, if I’m to make it clear to you, I’ll have to shout as well, and it’s nothing more than my name that he shouts out.” Miss Brüstner, laughing as she listened to him, laid her forefinger on her mouth so that K. would not shout, but it was too late. K. was too engrossed in his role and slowly called out, “Josef K.!” It was not as loud as he had threatened, but nonetheless, once he had suddenly called it out, the cry seemed gradually to spread itself all round the room.

There was a series of loud, curt and regular knocks at the door of the adjoining room. Miss Brüstner went pale and laid her hand on her heart. K. was especially startled, as for a moment he had been quite unable to think of anything other than the events of that morning and the girl for whom he was performing them. He had hardly pulled himself together when he jumped over to Miss Brüstner and took her hand. “Don’t be afraid,” he whispered, “I’ll put everything right. But who can it be? It’s only the living room next door, nobody sleeps in there.” “Yes they do,” whispered Miss Brüstner into K.’s ear, “a nephew of Mrs. Grubach’s, an captain in the army, has been sleeping there since yesterday. There’s no other room free. I’d forgotten about it too. Why did you have to shout like that? You’ve made me quite upset.” “There is no reason for it,” said K., and, now as she sank back onto the cushion, kissed her forehead. “Go away, go away,” she said, hurriedly sitting back up, “get out of here, go, what is it you want, he’s listening at the door he can hear everything. You’re causing me so much trouble!” “I won’t go,” said K., “until you’ve calmed down a bit. Come over into the other corner of the room, he won’t be able to hear us there.” She let him lead her there. “Don’t forget,” he said, “although this might be unpleasant for you you’re not in any real danger. You know how much esteem Mrs. Grubach has for me, she’s the one who will make all the decisions in this, especially as the captain is her nephew, but she believes everything I say without question. What’s more, she has borrowed a large sum of money from me and that makes her dependent on me. I will confirm whatever you say to explain our being here together, however inappropriate it might be, and I guarantee to make sure that Mrs. Grubach will not only say she believes the explanation in public but will believe it truly and sincerely. You will have no need to consider me in any way. If you wish to let it be known that I have attacked you then Mrs. Grubach will be informed of such and she will believe it without even losing her trust in me, that’s how much respect she has for me.” Miss Brüstner looked at the floor in front of her, quiet and a little sunk in on herself. “Why would Mrs. Grubach not believe that I’ve attacked you?” added K. He looked at her hair in front of him, parted, bunched down, reddish and firmly held in place. He thought she would look up at him, but without changing her manner she said, “Forgive me, but it was the suddenness of the knocking that startled me so much, not so much what the consequences of
the captain being here might be. It was all so quiet after you’d shouted, and then there was the knocking, that’s was made me so shocked, and I was sitting right by the door, the knocking was right next to me. Thank you for your suggestions, but I won’t accept them. I can bear the responsibility for anything that happens in my room myself, and I can do so with anyone. I’m surprised you don’t realise just how insulting your suggestions are and what they imply about me, although I certainly acknowledge your good intentions. But now, please go, leave me alone, I need you to go now even more than I did earlier. The couple of minutes you asked for have grown into half an hour, more than half an hour now.” K. took hold of her hand, and then of her wrist, “You’re not cross with me, though?” he said. She pulled her hand away and answered, “No, no, I’m never cross with anyone.” He grasped her wrist once more, she tolerated it now and, in that way, lead him to the door. He had fully intended to leave. But when he reached the door he came to a halt as if he hadn’t expected to find a door there. Miss Brüstner made use of that moment to get herself free, open the door, slip out into the hallway and gently say to K. from there, “Now, come along, please. Look,” she pointed to the captain’s door, from under which there was a light shining, “he’s put a light on and he’s laughing at us.” “Alright, I’m coming,” said K., moved forward, took hold of her, kissed her on the mouth and then over her whole face like a thirsty animal lapping with its tongue when it eventually finds water. He finally kissed her on her neck and her throat and left his lips pressed there for a long time. He did not look up until there was a noise from the captain’s room. “I’ll go now,” he said, he wanted to address Miss Brüstner by her Christian name, but did not know it. She gave him a tired nod, offered him her hand to kiss as she turned away as if she did not know what she was doing, and went back into her room with her head bowed. A short while later, K. was lying in his bed. He very soon went to sleep, but before he did he thought a little while about his behaviour, he was satisfied with it but felt some surprise that he was not more satisfied; he was seriously worried about Miss Brüstner because of the captain.

Chapter 2: First Cross-examination

K. was informed by telephone that there would be a small hearing concerning his case the following Sunday. He was made aware that these cross examinations would follow one another regularly, perhaps not every week but quite frequently. On the one hand it was in everyone’s interest to bring proceedings quickly to their conclusion, but on the other hand every aspect of the examinations had to be carried out thoroughly without lasting too long because of the associated stress. For these reasons, it had been decided to hold a series of brief examinations following on one after another. Sunday had been chosen as the day for the hearings so that K. would not be disturbed in his professional work. It was assumed that he would be in agreement with this, but if he wished for another date then, as far as possible, he would be accommodated. Cross-examinations could even be held in the night, for instance, but K. would probably not be fresh enough at that time. Anyway, as long as K. made no objection, the hearing would be left on Sundays. It was a matter of course that he would have to appear without fail, there was probably no need to point this out to him. He would be given the number of the building where he was to present himself, which was in a street in a suburb well away from the city centre which K. had never been to before.

Once he had received this notice, K. hung up the receiver without giving an answer; he had decided immediately to go there that Sunday, it was certainly necessary, proceedings had begun and he had to face up to it, and this first examination would probably also be the last. He was still standing in thought by the telephone when he heard the voice of the deputy director behind him—he wanted to use the telephone but K. stood in his way. “Bad news?” asked the deputy director casually, not in order to find anything out but just to get K. away from the device. “No, no,” said K., he stepped to one side but did not go away entirely. The deputy director picked up the receiver and, as he waited for his connection, turned away from it and said to K., “One question, Mr. K.: Would you like to give me the pleasure of joining me on my sailing boat on Sunday morning? There’s quite a few people coming, you’re bound to know some of them. One of them is Hasterer, the state attorney. Would you like to come along? Do come along!” K. tried to pay attention to what the deputy director was saying. It was of no small importance for him, as this invitation from the deputy director, with whom he had never got on very well, meant that he was trying to improve his relations with him. It showed how important K. had become in the bank and how its second most important official seemed to value his friendship, or at least his impartiality. He was only speaking at the side of the telephone receiver while he waited for his connection, but in giving this invitation the deputy director was humbling himself. But K. would have to humble him a second time as a result, he said, “Thank you very much, but I’m afraid I will have no time on Sunday, I have a previous obligation.” “Pity,” said the deputy director, and turned to the telephone conversation that had just been connected. It was not a short conversation, but K., remained standing confused by the instrument all the time it was going on. It was only when the deputy director hung up that he was shocked into aware-
ness and said, in order to partially excuse his standing there for no reason, “I’ve just received a telephone call, there’s somewhere I need to go, but they forgot to tell me what time.” “Ask them then,” said the deputy director. “It’s not that important,” said K., although in that way his earlier excuse, already weak enough, was made even weaker. As he went, the deputy director continued to speak about other things. K. forced himself to answer, but his thoughts were mainly about that Sunday, how it would be best to get there for nine o’clock in the morning as that was the time that courts always start work on weekdays.

The weather was dull on Sunday. K. was very tired, as he had stayed out drinking until late in the night celebrating with some of the regulars, and he had almost overslept. He dressed hurriedly, without the time to think and assemble the various plans he had worked out during the week. With no breakfast, he rushed to the suburb he had been told about. Oddly enough, although he had little time to look around him, he came across the three bank officials involved in his case, Rabensteiner, Kullich and Kaminer. The first two were travelling in a tram that went across K.’s route, but Kaminer sat on the terrace of a cafe and leant curiously over the wall as K. came over. All of them seemed to be looking at him, surprised at seeing their superior running; it was a kind of pride that made K. want to go on foot, this was his affair and the idea of any help from strangers, however slight, was repulsive to him, he also wanted to avoid asking for anyone’s help because that would initiate them into the affair even if only slightly. And after all, he had no wish at all to humiliate himself before the committee by being too punctual. Anyway, now he was running so that he would get there by nine o’clock if at all possible, even though he had no appointment for this time.

He had thought that he would recognise the building from a distance by some kind of sign, without knowing exactly what the sign would look like, or from some particular kind of activity outside the entrance. K. had been told that the building was in Juliusstrasse, but when he stood at the street’s entrance it consisted on each side of almost nothing but monotonous, grey constructions, tall blocks of flats occupied by poor people. Now, on a Sunday morning, most of the windows were occupied, men in their shirtsleeves leant out smoking, or carefully and gently held small children on the sills. Other windows were piled up with bedding, above which the dishevelled head of a woman would briefly appear. People called out to each other across the street, one of the calls provoked a loud laugh about K. himself. It was a long street, and spaced evenly along it were small shops below street level, selling various kinds of foodstuffs, which you reached by going down a few steps. Women went in and out of them or stood chatting on the steps. A fruitmonger, taking his goods up to the windows, was just as inattentive as K. and nearly knocked him down with his cart. Just then, a gramophone, which in better parts of town would have been seen as worn out, began to play some murderous tune.

K. went further into the street, slowly, as if he had plenty of time now, or as if the examining magistrate were looking at him from one of the windows and therefore knew that K. had found his way there. It was shortly after nine. The building was quite far down the street, it covered so much area it was almost extraordinary, and the gateway in particular was tall and long. It was clearly intended for delivery wagons belonging to the various warehouses all round the yard which were now locked up and carried the names of companies some of which K. knew from his work at the bank. In contrast with his usual habits, he remained standing a while at the entrance to the yard taking in all these external details. Near him, there was a bare-footed man sitting on a crate and reading a newspaper. There were two lads swinging on a hand cart. In front of a pump stood a weak, young girl in a bedjacket who, as the water flowed into her can, looked at K. There was a piece of rope stretched between two windows in a corner of the yard, with some washing hanging on it to dry. A man stood below it calling out instructions to direct the work being done.

K. went over to the stairway to get to the room where the hearing was to take place, but then stood still again as besides these steps he could see three other stairway entrances, and there also seemed to be a small passageway at the end of the yard leading into a second yard. It irritated him that he had not been given more precise directions to the room, it meant they were either being especially neglectful with him or especially indifferent, and he decided to make that clear to them very loudly and very unambiguously. In the end he decided to climb up the stairs, his thoughts playing on something that he remembered the policeman, Willem, saying to him; that the court is attracted by the guilt, from which it followed that the court must be on the stairway that K. selected by chance.

As he went up he disturbed a large group of children playing on the stairs who looked at him as he stepped through their rows. “Next time I come here,” he said to himself, “I must either bring sweets with me make them like me or a stick to hit them with.” Just before he reached the first landing he even had to wait a little while until a ball had finished its movement, two small lads with sly faces like grown-up scoundrels held him by his trouserlegs until it had; if he were to shake them off he would have to hurt them, and he was afraid of what noise they would make by shouting.
On the first floor, his search began for real. He still felt unable to ask for the investigating committee, and so he invented a joiner called Lanz—that name occurred to him because the captain, Mrs. Grubach’s nephew, was called Lanz—so that he could ask at every flat whether Lanz the joiner lived there and thus obtain a chance to look into the rooms. It turned out, though, that that was mostly possible without further ado, as almost all the doors were left open and the children ran in and out. Most of them were small, one-windowed rooms where they also did the cooking. Many women held babies in one arm and worked at the stove with the other. Half grown girls, who seemed to be dressed in just their pinafores worked hardest running to and fro. In every room, the beds were still in use by people who were ill, or still asleep, or people stretched out on them in their clothes. K. knocked at the flats where the doors were closed and asked whether Lanz the joiner lived there. It was usually a woman who opened the door, heard the enquiry and turned to somebody in the room who would raise himself from the bed. “The gentleman’s asking if a joiner called Lanz, lives here.” “A joiner, called Lanz?” he would ask from the bed. “That’s right,” K. would say, although it was clear that the investigating committee was not to be found there, and so his task was at an end. There were many who thought it must be very important for K. to find Lanz the joiner and thought long about it, naming a joiner who was not called Lanz or giving a name that had some vague similarity with Lanz, or they asked neighbours or accompanied K. to a door a long way away where they thought someone of that sort might live in the back part of the building or where someone would be who could advise K. better than they could themselves. K. eventually had to give up asking if he did not want to be led all round from floor to floor in this way. He regretted his initial plan, which had at first seemed so practical to him. As he reached the fifth floor, he decided to give up the search, took his leave of a friendly, young worker who wanted to lead him on still further and went down the stairs. But then the thought of how much time he was wasting made him cross, he went back again and knocked at the first door on the fifth floor. The first thing he saw in the small room was a large clock on the wall which already showed ten o’clock. “Is there a joiner called Lanz who lives here?” he asked. “Pardon?” said a young woman with black, shining eyes who was, at that moment, washing children’s underclothes in a bucket. She pointed her wet hand towards the open door of the adjoining room.

K. thought he had stepped into a meeting. A medium sized, two windowed room was filled with the most diverse crowd of people—nobody paid any attention to the person who had just entered. Close under its ceiling it was surrounded by a gallery which was also fully occupied and where the people could only stand bent down with their heads and their backs touching the ceiling. K., who found the air too stuffy, stepped out again and said to the young woman, who had probably misunderstood what he had said, “I asked for a joiner, someone by the name of Lanz.” “Yes,” said the woman, “please go on in.” K. would probably not have followed her if the woman had not gone up to him, taken hold of the door handle and said, “I’ll have to close the door after you, no-one else will be allowed in.” “Very sensible,” said K., “but it’s too full already.” But then he went back in anyway. He passed through between two men who were talking beside the door—one of them held both hands far out in front of himself making the movements of counting out money, the other looked him closely in the eyes—and someone took him by the hand. It was a small, red-faced youth. “Come in, come in,” he said. K. let himself be led by him, and it turned out that there was—surprisingly in a densely packed crowd of people moving to and fro—a narrow passage which may have been the division between two factions; this idea was reinforced by the fact that in the first few rows to the left and the right of him there was hardly any face looking in his direction, he saw nothing but the backs of people directing their speech and their movements only towards members of their own side. Most of them were dressed in black, in old, long, formal frock coats that hung down loosely around them. These clothes were the only thing that puzzled K., as he would otherwise have taken the whole assembly for a local political meeting.

At the other end of the hall where K. had been led there was a little table set at an angle on a very low podium which was as overcrowded as everywhere else, and behind the table, near the edge of the podium, sat a small, fat, wheezing man who was talking with someone behind him. This second man was standing with his legs crossed and his elbows on the backrest of the chair, provoking much laughter. From time to time he threw his arm in the air as if doing a caricature of someone. The youth who was leading K. had some difficulty in reporting to the man. He had already tried twice to tell him something, standing on tip-toe, but without getting the man’s attention as he sat there above him. It was only when one of the people up on the podium drew his attention to the youth that the man turned to him and leant down to hear what it was he quietly said. Then he pulled out his watch and quickly looked over at K. “You should have been here one hour and five minutes ago,” he said. K. was going to give him a reply but had no time to do so, as hardly had the man spoken than a general muttering arose all over the right hand side of the hall. “You should have been here one hour and five minutes ago,”
the man now repeated, raising his voice this time, and quickly looked round the hall beneath him. The muttering also became immediately louder and, as the man said nothing more, died away only gradually. Now the hall was much quieter than when K. had entered. Only the people up in the gallery had not stopped passing remarks. As far as could be distinguished, up in the half-darkness, dust and haze, they seemed to be less well dressed than those below. Many of them had brought pillows that they had put between their heads and the ceiling so that they would not hurt themselves pressed against it.

K. had decided he would do more watching than talking, so he did not defend himself for supposedly having come late, and simply said, “Well maybe I have arrived late, I’m here now.” There followed loud applause, once more from the right hand side of the hall. Easy people to get on your side, thought K., and was bothered only by the quiet from the left hand side which was directly behind him and from which there was applause from only a few individuals. He wondered what he could say to get all of them to support him together or, if that were not possible, to at least get the support of the others for a while.

“Yes,” said the man, “but I’m now no longer under any obligation to hear your case”—there was once more a muttering, but this time it was misleading as the man waved the people’s objections aside with his hand and continued—“I will, however, as an exception, continue with it today. But you should never arrive late like this again. And now, step forward!” Someone jumped down from the podium so that there would be a place free for K., and K. stepped up onto it. He stood pressed closely against the table, the press of the crowd behind him was so great that he had to press back against it if he did not want to push the judge’s desk down off the podium and perhaps the judge along with it.

The judge, however, paid no attention to that but sat very comfortably on his chair and, after saying a few words to close his discussion with the man behind him, reached for a little note book, the only item on his desk. It was like an old school exercise book and had become quite misshapen from much thumbing. “Now then,” said the judge, thumbing through the book. He turned to K. and K. stepped up onto it. He stood pressed closely against the table, the press of the crowd behind him was so great that he had to press back against it if he did not want to push the judge’s desk down off the podium and perhaps the judge along with it.

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The left hand side of the hall was still quiet, though, the people stood there in rows with their faces looking towards the podium listening to what was being said there, they observed the noise from the other side of the hall with the same quietness and even allowed some individuals from their own ranks, here and there, to go forward into the other faction. The people in the left faction were not only fewer in number than the right but probably were no more important than them, although their behaviour was calmer and that made it seem like they were. When K. now began to speak he was convinced he was doing it in the same way as them.

“Your question, My Lord, as to whether I am a house painter—in fact even more than that, you did not ask at all but merely imposed it on me—is symptomatic of the whole way these proceedings against me are being carried out. Perhaps you will object that there are no proceedings against me. You will be quite right, as there are proceedings only if I acknowledge that there are. But, for the moment, I do acknowledge it, out of pity for yourselves to a large extent. It’s impossible not to observe all this business without feeling pity. I don’t say things are being done without due care but I would like to make it clear that it is I who make the acknowledgement.”

K. stopped speaking and looked down into the hall. He had spoken sharply, more sharply than he had intended, but he had been quite right. It should have been rewarding with some applause here and there but everything was quiet, they were all clearly waiting for what would follow, perhaps the quietness was laying the ground for an outbreak of activity that would bring this whole affair to an end. It was somewhat disturbing that just then the door at the end of the hall opened, the young washerwoman, who seemed to have finished her work, came in and, despite all her caution, attracted the attention of some of the people there. It was only the judge who gave K. any direct pleasure, as he seemed to have been immediately struck by K.’s words. Until then, he had listened to him standing, as K.’s speech had taken him by surprise while he was directing his attention to the gallery. Now, in the pause, he sat down very slowly, as if he did not want anyone to notice. He took out the notebook again, probably so that he could give the impression of being calmer.

“That won’t help you, sir,” continued K., “even your little book will only confirm what I say.” K. was satisfied to hear nothing but his own quiet words in this room full of strangers, and he even dared casually to pick up the examining judge’s notebook and, touching it only with
the tips of his fingers as if it were something revolting, lifted it in the air, holding it just by one of the middle pages so that the others on each side of it, closely written, blotted and yellowing, flapped down. “Those are the official notes of the examining judge,” he said, and let the notebook fall down onto the desk. “You can read in your book as much as you like, sir, I really don’t have anything in this charge book to be afraid of, even though I don’t have access to it as I wouldn’t want it in my hand. I can only touch it with two fingers.” The judge grabbed the notebook from where it had fallen on the desk—which could only have been a sign of his deep humiliation, or at least that is how it must have been perceived—tried to tidy it up a little, and held it once more in front of himself in order to read from it.

The people in the front row looked up at him, showing such tension on their faces that he looked back down at them for some time. Every one of them was an old man, some of them with white beards. Could they perhaps be the crucial group who could turn the whole assembly one way or the other? They had sunk into a state of motionlessness while K. gave his oration, and it had not been possible to raise them from this passivity even when the judge was being humiliated. “What has happened to me,” continued K., with less of the vigour he had had earlier, he continually scanned the faces in the first row, and this gave his address a somewhat nervous and distracted character, “what has happened to me is not just an isolated case. If it were it would not be of much importance as it’s not of much importance to me, but it is a symptom of proceedings which are carried out against many. It’s on behalf of them that I stand here now, not for myself alone.”

Without having intended it, he had raised his voice. Somewhere in the hall, someone raised his hands and applauded him shouting, “Bravo! Why not then? Bravo! Again I say, Bravo!” Some of the men in the first row groped around in their beards, none of them looked round to see who was shouting. Not even K. thought him of any importance but it did raise his spirits; he no longer thought it at all necessary that all of those in the hall should applaud him, it was enough if the majority of them began to think about the matter and if only one of them, now and then, was persuaded.

“I’m not trying to be a successful orator,” said K. after this thought, “that’s probably more than I’m capable of anyway. I’m sure the examining judge can speak far better than I can, it is part of his job after all. All that I want is a public discussion of a public wrong. Listen: ten days ago I was placed under arrest, the arrest itself is something I laugh about but that’s beside the point. They came for me in the morning when I was still in bed. Maybe the order had been given to arrest some house painter—that seems possible after what the judge has said—someone who is as innocent as I am, but it was me they chose. There were two police thugs occupying the next room. They could not have taken better precautions if I had been a dangerous robber. And these policemen were unprincipled riff-raff, they talked at me till I was sick of it, they wanted bribes, they wanted to trick me into giving them my clothes, they wanted money, supposedly so that they could bring me my breakfast after they had blatantly eaten my own breakfast in front of my eyes. And even that was not enough. I was led in front of the supervisor in another room. This was the room of a lady who I have a lot of respect for, and I was forced to look on while the supervisor and the policemen made quite a mess of this room because of me, although not through any fault of mine. It was not easy to stay calm, but I managed to do so and was completely calm when I asked the supervisor why it was that I was under arrest. If he were here he would have to confirm what I say. I can see him now, sitting on the chair belonging to that lady I mentioned—a picture of dull-witted arrogance. What do you think he answered? What he told me, gentlemen, was basically nothing at all; perhaps he really did know nothing, he had placed me under arrest and was satisfied. In fact he had done more than that and brought three junior employees from the bank where I work into the lady’s room; they had made themselves busy interfering with some photographs that belonged to the lady and causing a mess. There was, of course, another reason for bringing these employees; they, just like my landlady and her maid, were expected to spread the news of my arrest and damage my public reputation and in particular to remove me from my position at the bank. Well they didn’t succeed in any of that, not in the slightest, even my landlady, who is quite a simple person—and I will give you here her name in full respect, her name is Mrs. Grubach—even Mrs. Grubach was understanding enough to see that an arrest like this has no more significance than an attack carried out on the street by some youths who are not kept under proper control. I repeat, this whole affair has caused me nothing but unpleasantness and temporary irritation, but could it not also have had some far worse consequences?”

K. broke off here and looked at the judge, who said nothing. As he did so he thought he saw the judge use a movement of his eyes to give a sign to someone in the crowd. K. smiled and said, “And now the judge, right next to me, is giving a secret sign to someone among you. There seems to be someone among you who is taking directions from above. I don’t know whether the sign is meant to produce boosing or applause, but I’ll resist trying to guess what its meaning is too soon. It really doesn’t matter to me, and I give his lordship the judge
my full and public permission to stop giving secret signs to his paid subordinate down there and give his orders in words instead; let him just say “Boo now!,” and then the next time “Clap now!”.

Whether it was embarrassment or impatience, the judge rocked backwards and forwards on his seat. The man behind him, whom he had been talking with earlier, leant forward again, either to give him a few general words of encouragement or some specific piece of advice. Below them in the hall the people talked to each other quietly but animatedly. The two factions had earlier seemed to hold views strongly opposed to each other but now they began to intermingle, a few individuals pointed up at K., others pointed at the judge. The air in the room was fuggy and extremely oppressive, those who were standing furthest away could hardly even be seen through it. It must have been especially troublesome for those visitors who were in the gallery, as they were forced to quietly ask the participants in the assembly what exactly was happening, albeit with timid glances at the judge. The replies they received were just as quiet, and given behind the protection of a raised hand.

“I have nearly finished what I have to say,” said K., and as there was no bell available he struck the desk with his fist in a way that startled the judge and his advisor and made them look up from each other. “None of this concerns me, and I am therefore able to make a calm assessment of it, and, assuming that this so-called court is of any real importance, it will be very much to your advantage to listen to what I have to say. If you want to discuss what I say, please don’t bother to write it down until later on, I don’t have any time to waste and I’ll soon be leaving.”

There was immediate silence, which showed how well K. was in control of the crowd. There were no shouts among them as there had been at the start, no-one even applauded, but if they weren’t already persuaded they seemed very close to it.

K. was pleased at the tension among all the people there as they listened to him, a rustling rose from the silence which was more invigorating than the most ecstatic applause could have been. “There is no doubt,” he said quietly, “that there is some enormous organisation determining what is said by this court. In my case this includes my arrest and the examination taking place here today, an organisation that employs policemen who can be bribed, oafish supervisors and judges of whom nothing better can be said than that they are not as arrogant as some others. This organisation even maintains a high-level judiciary along with its train of countless servants, scribes, policemen and all the other assistance that it needs, perhaps even executioners and torturers—I’m not afraid of using those words. And what, gentlemen, is the purpose of this enormous organisation? Its purpose is to arrest innocent people and wage pointless prosecutions against them which, as in my case, lead to no result. How are we to avoid those in office becoming deeply corrupt when everything is devoid of meaning? That is impossible, not even the highest judge would be able to achieve that for himself. That is why policemen try to steal the clothes off the back of those they arrest, that is why supervisors break into the homes of people they do not know, that is why innocent people are humiliated in front of crowds rather than being given a proper trial. The policemen only talked about the warehouses where they put the property of those they arrest, I would like to see these warehouses where the hard won possessions of people under arrest is left to decay, if, that is, it’s not stolen by the thieving hands of the warehouse workers.”

K. was interrupted by a screeching from the far end of the hall, he shaded his eyes to see that far, as the dull light of day made the smoke whitish and hard to see through. It was the washerwoman whom K. had recognised as a likely source of disturbance as soon as she had entered. It was hard to see now whether it was her fault or not. K. could only see that a man had pulled her into a corner by the door and was pressing himself against her. But it was not her who was screaming, but the man, he had opened his mouth wide and looked up at the ceiling. A small circle had formed around the two of them, the visitors near him in the gallery seemed delighted that the serious tone K. had introduced into the gathering had been disturbed in this way. K.’s first thought was to run over there, and he also thought that everyone would want to bring things back into order there or at least to make the pair leave the room, but the first row of people in from of him stayed were they were, no-one moved and no-one let K. through. On the contrary, they stood in his way, old men held out their arms in front of him and a hand from somewhere—he did not have the time to turn round—took hold of his collar. K., by this time, had forgotten about the pair, it seemed to him that his freedom was being limited as if his arrest was being taken seriously, and, without any thought for what he was doing, he jumped down from the podium. Now he stood face to face with the crowd. Had he judged the people properly? Had he put too much faith in the effect of his speech? Had they been putting up a pretence all the time he had been speaking, and now that he come to the end and to what must follow, were they tired of pretending? What faces they were, all around him! Dark, little eyes flickered here and there, cheeks drooped down like on drunken men, their long beards were thin and stiff, if they took hold of them it was more like they were making their hands into claws, not as if they were taking hold of their own beards. But underneath those beards—and this was the real dis-
Every day over the following week, K. expected another summons to arrive, he could not believe that his rejection of any more hearings had been taken literally, and when the expected summons really had not come by Saturday evening he took it to mean that he was expected, without being told, to appear at the same place at the same time.

So on Sunday, he set out once more in the same direction, going without hesitation up the steps and through the corridors; some of the people remembered him and greeted him from their doorways, but he no longer needed to ask anyone the way and soon arrived at the right door. It was opened as soon as he knocked and, paying no attention to the woman he had seen last time who was standing at the doorway, he was about to go straight into the adjoining room when she said to him “There’s no session today”.

“What do you mean; no session?” he asked, unable to believe it. But the woman persuaded him by opening the door to the next room. It was indeed empty, and looked even more dismal empty than it had the previous Sunday. On the podium stood the table exactly as it had been before with a few books laying on it. “Can I have a look at those books?” asked K., not because he was especially curious but so that he would not have come for nothing. “No,” said the woman as she re-closed the door, “that’s not allowed. Those books belong to the examining judge.” “I see,” said K., and nodded, “those books must be law books, and that’s how this court does things, not only to try people who are innocent but even to try them without letting them know what’s going on.” “I expect you’re right,” said the woman, who had not understood exactly what he meant. “I’d better go away again, then,” said K. “Should I give a message to the examining judge?” asked the woman. “Do you know him, then?” asked K. “Of course I know him,” said the woman, “my husband is the court usher.” It was only now that K. noticed that the room, which before had held nothing but a wash-tub, had been fitted out as a living room. The woman saw how surprised he was and said, “Yes, we’re allowed to live here as we like, only we have to clear the room out when the court’s in session. There’s lots of disadvantages to my husband’s job.” “It’s not so much the room that surprises me,” said K., looking at her crossly, “it’s your being married that shocks me.” “Are you thinking about what happened last time the court was in session, when I disturbed what you were saying?” asked the woman. “Of course,” said K., “it’s in the past now and I’ve nearly forgotten about it, but at the time it made me furious. And now you tell me yourself that you are a married woman.” “It wasn’t any disadvantage for you to have your speech interrupted. The way they talked about you after you’d gone was really bad.” “That could well be,” said K., turning away, “but it does not excuse you.”

Recovery made by K.—there were badges of various sizes and colours shining on the collars of their coats. As far as he could see, every one of them was wearing one of these badges. All of them belonged to the same group, even though they seemed to be divided to the right and the left of him, and when he suddenly turned round he saw the same badge on the collar of the examining judge who calmly looked down at him with his hands in his lap. “So,” called out K, throwing his arms in the air as if this sudden realisation needed more room, “all of you are working for this organisation, I see now that you are all the very bunch of cheats and liars I’ve just been speaking about, you’ve all pressed yourselves in here in order to listen in and snoop on me, you gave the impression of having formed into factions, one of you even applauded me to test me out, and you wanted to learn how to trap an innocent man! Well, I hope you haven’t come here for nothing, I hope you’ve either had some fun from someone who expected you to defend his innocence or else—let go of me or I’ll hit you,” shouted K. to a quivery old one who expected you to defend his innocence or else—“or else that you’ve actually learned something. And so I wish you good luck in your trade.” He briskly took his hat from where it lay on the edge of the table and, surrounded by a silence caused perhaps by the completeness of their surprise, pushed his way to the exit. However, the examining judge seems to have moved even more quickly than K., as he was waiting for him at the doorway. “One moment,” he said. K. stood where he was, but looked at the door with his hand already on its handle rather than at the judge. “I merely wanted to draw your attention,” said the judge, “to something you seem not yet to be aware of: today, you have robbed yourself of the advantages that a hearing of this sort always gives to someone who is under arrest.” K. laughed towards the door. “You bunch of louts,” he called, “you can keep all your hearings. But you have no protection from him, even my husband has had nothing to do with those books?” asked K., not because he was especially curious but so that he would not have come for nothing. “No,” said the woman as she re-closed the door, “that’s not allowed. Those books belong to the examining judge.” “I see,” said K., and nodded, “those books must be law books, and that’s how this court does things, not only to try people who are innocent but even to try them without letting them know what’s going on.” “I expect you’re right,” said the woman, who had not understood exactly what he meant. “I’d better go away again, then,” said K. “Should I give a message to the examining judge?” asked the woman. “Do you know him, then?” asked K. “Of course I know him,” said the woman, “my husband is the court usher.” It was only now that K. noticed that the room, which before had held nothing but a wash-tub, had been fitted out as a living room. The woman saw how surprised he was and said, “Yes, we’re allowed to live here as we like, only we have to clear the room out when the court’s in session. There’s lots of disadvantages to my husband’s job.” “It’s not so much the room that surprises me,” said K., looking at her crossly, “it’s your being married that shocks me.” “Are you thinking about what happened last time the court was in session, when I disturbed what you were saying?” asked the woman. “Of course,” said K., “it’s in the past now and I’ve nearly forgotten about it, but at the time it made me furious. And now you tell me yourself that you are a married woman.” “It wasn’t any disadvantage for you to have your speech interrupted. The way they talked about you after you’d gone was really bad.” “That could well be,” said K., turning away, “but it does not excuse you.”

“Therre’s no-one I know who’d hold it against me,” said K., “but it does not excuse you.”

Chapter 3: In the empty Courtroom—The Student—The Offices

Every day over the following week, K. expected another summons to arrive, he could not believe that his rejection of any more hearings had been taken literally, and when the expected summons really had not come by Saturday evening he took it to mean that he was expected, without being told, to appear at the same place at the same time.
Certainly be very powerful later on. He’s always after me, he’d only just left when you arrived.” “That fits in with everything else,” said K., “I’m not surprised.” “Do you want to make things a bit better here?” the woman asked slowly, watching him as if she were saying something that could be as dangerous for K. as for herself. “That’s what I thought when I heard you speak, I really liked what you said. Mind you, I only heard part of it, I missed the beginning of it and at the end I was lying on the floor with the student.—it’s so horrible here,” she said after a pause, and took hold of K.’s hand. “Do you believe you really will be able to make things better?” K. smiled and twisted his hand round a little in her soft hands. “It’s really not my job to make things better, as you put it,” he said, “and if you said that to the examining judge he would laugh at you or punish you for it. I really would not have become involved in this matter if I could have helped it, and I would have lost no sleep worrying about how this court needs to be made better. But because I’m told that I have been arrested—and I am under arrest—it forces me to take some action, and to do so for my own sake. However, if I can be of some service to you in the process I will, of course, be glad to do so. And I will be glad to do so not only for the sake of charity but also because you can be of some help to me.” “How could I help you, then?” said the woman. “You could, for example, show me the books on the table there.” “Yes, certainly,” the woman cried, and pulled K. along behind her as she rushed to them. The books were old and well worn, the cover of one of them had nearly broken through in its middle, and it was held together with a few threads. “Everything is so dirty here,” said K., shaking his head, and before he could pick the books up the woman wiped some of the dust off with her apron. K. took hold of the book that lay on top and threw it open, an indecent picture appeared. A man and a woman sat naked on a sofa, the base intent of whoever drew it was easy to see but he had been so grossly lacking in skill that all that anyone could really make out were the man and the woman who dominated the picture with their bodies, sitting in overly upright postures that created a false perspective and made it difficult for them to approach each other. K. didn’t thumb through that book any more, but just threw open the next one at its title page, it was a novel with the title, What Grete Suffered from her Husband, Hans. “So this is the sort of law book they study here,” said K., “this is the sort of person sitting in judgement over me.” “I can help you,” said the woman, “would you like me to?” “Could you really do that without placing yourself in danger? You did say earlier on that your husband is wholly dependent on his superiors.” “I still want to help you,” said the woman, “come over here, we’ve got to talk about it. Don’t say any more about what danger I’m in, I only fear danger where I want to fear it. Come over here.” She pointed to the podium and invited him to sit down on the step with her. “You’ve got lovely dark eyes,” she said after they had sat down, looking up into K.’s face, “people say I’ve got nice eyes too, but yours are much nicer. It was the first thing I noticed when you first came here. That’s even why I came in here, into the assembly room, afterwards, I’d never normally do that, I’m not really even allowed to.” So that’s what all this is about, thought K., she’s offering herself to me, she’s as degenerate as everything else around here, she’s had enough of the court officials, which is understandable I suppose, and so she approaches any stranger and makes compliments about his eyes. With that, K. stood up in silence as if he had spoken his thoughts out loud and thus explained his action to the woman. “I don’t think you can be of any assistance to me,” he said, “to be of any real assistance you would need to be in contact with high officials. But I’m sure you only know the lower employees, and there are crowds of them milling about here. I’m sure you’re very familiar with them and could achieve a great deal through them. I’ve no doubt of that, but the most that could be done through them would have no bearing at all on the final outcome of the trial. You, on the other hand, would lose some of your friends as a result, and I have no wish of that. Carry on with these people in the same way as you have been, as it does seem to me to be something you cannot do without. I have no regrets in saying this as, in return for your compliment to me, I also find you rather attractive, especially when you look at me as sadly as you are now, although you really have no reason to do so. You belong to the people I have to combat, and you’re very comfortable among them, you’re even in love with the student, or if you don’t love him you do at least prefer him to your husband. It’s easy to see that from what you’ve been saying. “No!” she shouted, remained sitting where she was and grasped K.’s hand, which he failed to pull away fast enough. “You can’t go away now, you can’t go away when you’ve misled me like that! Are you really capable of going away now? Am I really so worthless that you won’t even do me the favour of staying a little bit longer?” “You misunderstand me,” said K., sitting back down, “if it’s really important to you for me to stay here then I’ll be glad to do so, I have plenty of time, I came here thinking there would be a trial taking place. All I meant with what I said just now was to ask you not to do anything on my behalf in the proceedings against me. But even that is nothing for you to worry about when you consider that there’s nothing hanging on the outcome of this trial, and that, whatever the verdict, I will just laugh at it. And that’s even presuming it ever even reaches any conclusion, which I very much doubt. I think it’s much more likely that the court
officials will be too lazy, too forgetful, or even to fear-
ful ever to continue with these proceedings and that they
will soon be abandoned if they haven’t been abandoned
already. It’s even possible that they will pretend to be
Carrying on with the trial in the hope of receiving a large
bribe, although I can tell you now that that will be quite
in vain as I pay bribes to no-one. Perhaps one favour
you could do me would be to tell the examining judge,
or anyone else who likes to spread important news, that
I will never be induced to pay any sort of bribe through
any stratagem of theirs—and I’m sure they have many
stratagems at their disposal. There is no prospect of that,
you can tell them that quite openly. And what’s more, I
epect they have already noticed themselves, or even if
they haven’t, this affair is really not so important to me
as they think. Those gentlemen would only save some
work for themselves, or at least some unpleasantness for
me, which, however, I am glad to endure if I know that
each piece of unpleasantness for me is a blow against
them. And I will make quite sure it is a blow against
them. Do you actually know the judge?” “Course I do,”
said the woman, “he was the first one I thought of when
I offered to help you. I didn’t know he’s only a minor of-
ficial, but if you say so it must be true. Mind you, I still
think the report he gives to his superiors must have some
influence. And he writes so many reports. You say these
officials are lazy, but they’re certainly not all lazy, es-
specially this examining judge, he writes ever such a lot.
Last Sunday, for instance, that session went on till the
evening. Everyone had gone, but the examining judge,
he stayed in the hall, I had to bring him a lamp in, all
I had was a little kitchen lamp but he was very satisfied
with it and started to write straight away. Meantime my
husband arrived, he always has the day off on Sundays,
he stayed in the hall, I had to bring him a lamp in, all
I had was a little kitchen lamp but he was very satisfied
with it and started to write straight away. Meantime my
husband arrived, he always has the day off on Sundays,
we got the furniture back in and got our room sorted out
and then a few of the neighbours came, we sat and talked
for a bit by a candle, in short, we forgot all about the ex-
amining judge and went to bed. All of a sudden in the
night, it must have been quite late in the night, I wakes
up, next to the bed, there’s the examining judge shading
the lamp with his hand so that there’s no light from it
falls on my husband, he didn’t need to be as careful as
that, the way my husband sleeps the light wouldn’t have
woken him up anyway. I was quite shocked and nearly
screamed, but the judge was very friendly, warned me I
should be careful, he whispered to me he’s been writing
all this time, and now he’s brought me the lamp back,
and he’ll never forget how I looked when he found me
there asleep. What I mean, with all this, I just wanted to
tell you how the examining judge really does write lots
of reports, especially about you as questioning you was de-
initely one of the main things on the agenda that Sunday.
If he writes reports as long as that they must be of some
importance. And besides all that, you can see from what
happened that the examining judge is after me, and it’s
right now, when he’s first begun to notice me, that I can
have a lot of influence on him. And I’ve got other proof
I mean a lot to him, too. Yesterday, he sent that student
to me, the one he really trusts and who he works with, he
sent him with a present for me, silk stockings. He said it
was because I clear up in the courtroom but that’s only a
pretence, that job’s no more than what I’m supposed to
do, it’s what my husband gets paid for. Nice stockings,
they are, look,”—she stretched out her leg, drew her skirt
up to her knee and looked, herself, at the stocking—“they
are nice stockings, but they’re too good for me, really.”
She suddenly interrupted herself and lay her hand on
K.’s as if she wanted to calm him down, and whispered,
“Be quiet, Berthold is watching us.” K. slowly looked
up. In the doorway to the courtroom stood a young man,
he was short, his legs were not quite straight, and he
continually moved his finger round in a short, thin, red
beard with which he hoped to make himself look digni-
fied. K. looked at him with some curiosity, he was the
first student he had ever met of the unfamiliar discipline
of jurisprudence, face to face at least, a man who would
even most likely attain high office one day. The stu-
dent, in contrast, seemed to take no notice of K. at all, he
merely withdrew his finger from his beard long enough
to beckon to the woman and went over to the window, the
woman leaned over to K. and whispered, “Don’t be cross
with me, please don’t, and please don’t think ill of me
either, I’ve got to go to him now, to this horrible man,
just look at his bent legs. But I’ll come straight back and
then I’ll go with you if you’ll take me, I’ll go wherever
you want, you can do whatever you like with me, I’ll be
happy if I can be away from here for as long as possible,
it’d be best if I could get away from here for good.” She
stroked K.’s hand once more, jumped up and ran over
to the window. Before he realised it, K. grasped for her
hand but failed to catch it. He really was attracted to the
woman, and even after thinking hard about it could find
no good reason why he should not give in to her allure.
It briefly crossed his mind that the woman meant to en-
trap him on behalf of the court, but that was an objection
she entrap him? Was he not still free, so free that he
could crush the entire court whenever he wanted, as least
where it concerned him? Could he not have that much
confidence in himself? And her offer of help sounded
sincere, and maybe it wasn’t quite worthless. And maybe
there was no better revenge against the examining judge
and his cronies than to take this woman from him and
have her for himself. Maybe then, after much hard work
writing dishonest reports about K., the judge would go to
the woman’s bed late one night and find it empty. And it
would be empty because she belonged to K., because this woman at the window, this lush, supple, warm body in its sombre clothes of rough, heavy material belonged to him, totally to him and to him alone. Once he had settled his thoughts towards the woman in this way, he began to find the quiet conversation at the window was taking too long, he rapped on the podium with his knuckles, and then even with his fist. The student briefly looked away from the woman to glance at K. over his shoulder but did allow himself to be disturbed, in fact he even pressed himself close to the woman and put his arms around her. She dropped her head down low as if listening to him carefully, as she did so he kissed her right on the neck, hardly even interrupting what he was saying. K. saw this as confirmation of the tyranny the student held over the woman and which she had already complained about, he stood up and walked up and down the room. Glancing sideways at the student, he wondered what would be the quickest possible way to get rid of him, and so it was not unwelcome to him when the student, clearly disturbed by K.’s to-ing and fro-ing which K. had now developed into a stamping up and down, said to him, “You don’t have to stay here, you know, if you’re getting impatient. You could have gone earlier, no-one would have missed you. In fact you should have gone, you should have left as quickly as possible as soon as I got here.” This comment could have caused all possible rage to break out between them, but K. also bore in mind that this was a prospective court official speaking to a disfavoured defendant, and he might well have been taking pride in speaking in this way. K. remained standing quite close to him and said with a smile, “You’re quite right, I am impatient, but the easiest way to settle this impatience would be if you left us. On the other hand, if you’ve come here to study—you are a student, I hear—I’ll be quite happy to leave the room to you and go away with the woman. I’m sure you’ll still have a lot of study to do before you’re made into a judge. It’s true that I’m still not all that familiar with your branch of jurisprudence but I take it it involves a lot more than speaking roughly—and I see you have no shame in doing that extremely well.” “He shouldn’t have been allowed to move about so freely,” said the student, as if he wanted to give the woman an explanation for K.’s insults, “that was a mistake. I’ve told the examining judge so. He should at least have been detained in his room between hearings. Sometimes it’s impossible to understand what the judge thinks he’s doing.” “You’re wasting your breath,” said K., then he reached his hand out towards the woman and said, “come with me.” “So that’s it,” said the student, “oh no, you’re not going to get her;” and with a strength you would not have expected from him, he glanced tenderly at her, lifted her up on one arm and, his back bent under the weight, ran with her to the door. In this way he showed, unmistakeably, that he was to some extent afraid of K., but he nonetheless dared to provoke him still further by stroking and squeezing the woman’s arm with his free hand. K. ran the few steps up to him, but when he had reached him and was about to take hold of him and, if necessary, throttle him, the woman said, “It’s no good, it’s the examining judge who’s sent for me, I daren’t go with you, this little bastard...” and here she ran her hand over the student’s face, “this little bastard won’t let me.” “And you don’t want to be set free!” shouted K., laying his hand on the student’s shoulder, who then snapped at it with his teeth. “No!” shouted the woman, pushing K. away with both hands, “no, no don’t do that, what d’you think you’re doing!?” That’d be the end of me. Let go of him, please just let go of him. He’s only carrying out the judge’s orders, he’s carrying me to him.” “Let him take you then, and I want to see nothing more of you,” said K., enraged by his disappointment and giving the student a thump in the back so that he briefly stumbled and then, glad that he had not fallen, immediately jumped up all the higher with his burden. K. followed them slowly. He realised that this was the first unambiguous setback he had suffered from these people. It was of course nothing to worry about, he accepted the setback only because he was looking for a fight. If he stayed at home and carried on with his normal life he would be a thousand times superior to these people and could get any of them out of his way just with a kick. And he imagined the most laughable scene possible as an example of this, if this contemptible student, this inflated child, this knock-kneed redbeard, if he were kneeling at Elsa’s bed wringing his hands and begging for forgiveness. K. so enjoyed imagining this scene that he decided to take the student along to Elsa with him if ever he should get the opportunity.

K. was curious to see where the woman would be taken and he hurried over to the door, the student was not likely to carry her through the streets on his arm. It turned out that the journey was far shorter. Directly opposite the flat there was a narrow flight of wooden steps which probably led up to the attic, they turned as they went so that it was not possible to see where they ended. The student carried the woman up these steps, and after the exertions of running with her he was soon groaning and moving very slowly. The woman waved down at K. and by raising and lowering her shoulders she tried to show that she was an innocent party in this abduction, although the gesture did not show a lot of regret. K. watched her without expression like a stranger, he wanted to show neither that he was disappointed nor that he would easily get over his disappointment.

The two of them had disappeared, but K. remained standing in the doorway. He had to accept that the
woman had not only cheated him but that she had also lied to him when she said she was being taken to the examining judge. The examining judge certainly wouldn’t be sitting and waiting in the attic. The wooden stairs would explain nothing to him however long he stared at them. Then K. noticed a small piece of paper next to them, went across to it and read, in a childish and unpractised hand, “Entrance to the Court Offices”. Were the court offices here, in the attic of this tenement, then? If that was how they were accommodated it did not attract much respect, and it was some comfort for the accused to realise how little money this court had at its disposal if it had to locate its offices in a place where the tenants of the building, who were themselves among the poorest of people, would throw their unneeded junk. On the other hand, it was possible that the officials had enough money but that they squandered it on themselves rather than use it for the court’s purposes. Going by K.’s experience of them so far, that even seemed probable, except that if the court were allowed to decay in that way it would not just humiliate the accused but also give him more encouragement than if the court were simply in a state of poverty. K. also now understood that the court was ashamed to summon those it accused to the attic of this building for the initial hearing, and why it preferred to impose upon them in their own homes. What a position it was that K. found himself in, compared with the judge sitting up in the attic! K., at the bank, had a big office with an ante-room, and had an enormous window through which he could look down at the activity in the square. It was true, though, that he had no secondary income from bribes and fraud, and he couldn’t tell a servant to bring him a woman up to the office on his arm. K., however, was quite willing to do without such things, in this life at least. K. was still looking at the notice when a man came up the stairs, looked through the open door into the living room where it was also possible to see the courtroom, and finally asked K. whether he had just seen a woman there. “You’re the court usher, aren’t you?” asked K. “That’s right,” said the man, “oh, yes, you’re defendant K., I recognise you now as well. Nice to see you here.” And he offered K. his hand, which was far from what K. had expected. And when K. said nothing, he added, “There’s no court session planned for today, though.” “I know that,” said K. as he looked at the usher’s civilian coat which, beside its ordinary buttons, displayed two gilded ones as the only sign of his office and seemed to have been taken from an old army officer’s coat. “I was speaking with your wife a little while ago. She is no longer here. The student has carried her off to the attic. The only one who could do it is a man like you.” “What, how could I do it?” asked K. in astonishment. “Well you’re facing a charge, aren’t you,” said the usher. “Yes, but that’s all the more reason for me to be afraid. Even if he has no influence on the outcome of the trial he probably has some on the initial examination.” “Yes, exactly,” said the usher, as if K.’s view had been just as correct as his own. “Only we don’t usually get any trials heard here with no hope at all.” “I am not of the same opinion”, said K., “although that ought not to prevent me from dealing with the student if the opportunity arises.” “I would be very grateful to you,” said the usher of the court, somewhat formally, not really seeming to believe that his highest wish could be fulfilled. “Perhaps,” continued K., “perhaps there are some other officials of yours here, perhaps all of them, who would
deserve the same." “Oh yes, yes,” said the usher, as if this was a matter of course. Then he looked at K. trustingly, which, despite all his friendliness, he had not done until then, and added, “they’re always rebelling.” But the conversation seemed to have become a little uncomfortable for him, as he broke it off by saying, “now I have to report to the office. Would you like to come with me?” “There’s nothing for me to do there,” said K. “You’d be able to have a look at it. No-one will take any notice of you.” “Is it worth seeing then?” asked K. hesitatingly, although he felt very keen to go with him. “Well,” said the usher, “I thought you’d be interested in it.” “Alright then,” said K. finally, “I’ll come with you.” And, quicker than the usher himself, he ran up the steps.

At the entrance he nearly fell over, as behind the door there was another step. “They don’t show much concern for the public,” he said. “They don’t show any concern at all,” said the usher, “just look at the waiting room here.” It consisted of a long corridor from which roughly made doors led out to the separate departments of the attic. There was no direct source of light but it was not entirely dark as many of the departments, instead of solid walls, had just wooden bars reaching up to the ceiling to separate them from the corridor. The light made its way in through them, and it was also possible to see individual officials through them as they sat writing at their desks or stood up at the wooden frameworks and watched the people on the corridor through the gaps. There were only a few people in the corridor, probably because it was Sunday. They were not very impressive. They sat, equally spaced, on two rows of long wooden benches which had been placed along both sides of the corridor. All of them were carelessly dressed although the expressions on their faces, their bearing, the style of their beards and many details which were hard to identify showed that they belonged to the upper classes. There were no coat hooks for them to use, and so they had placed their hats under the bench, each probably having followed the example of the others. When those who were sitting nearest the door saw K. and the usher of the court they stood up to greet them, and when the others saw that, they also thought they had to greet them, so that as the two of them went by all the people there stood up. None of them stood properly upright, their backs were bowed, their knees bent, they stood like beggars on the street. K. waited for the usher, who was following just behind him. “They must all be very dispirited,” he said. “Yes,” said the usher, “they are the accused, everyone you see here has been accused.” “Really!” said K. “They’re colleagues of mine then.” And he turned to the nearest one, a tall, thin man with hair that was nearly grey. “What is it you are waiting for here?” asked K., politely, but the man was startled at being spoken to unexpectedly, which was all the more pitiful to see because the man clearly had some experience of the world and elsewhere would certainly have been able to show his superiority and would not have easily given up the advantage he had acquired. Here, though, he did not know what answer to give to such a simple question and looked round at the others as if they were under some obligation to help him, and as if no-one could expect any answer from him without this help. Then the usher of the court stepped forward to him and, in order to calm him down and raise his spirits, said, “The gentleman here’s only asking what it is you’re waiting for. You can give him an answer.” The voice of the usher was probably familiar to him, and had a better effect than K.’s. “I’m . . . I’m waiting . . . “ he began, and then came to a halt. He had clearly chosen this beginning so that he could give a precise answer to the question, but now he didn’t know how to continue. Some of the others waiting had come closer and stood round the group, the usher of the court said to them, “Get out the way, keep the gangway free.” They moved back slightly, but not as far as where they had been sitting before. In the meantime, the man whom K. had first approached had pulled himself together and even answered him with a smile. “A month ago I made some applications for evidence to be heard in my case, and I’m waiting for it to be settled.” “You certainly seem to be going to a lot of effort,” said K. “Yes,” said the man, “it is my affair after all.” “Not everyone thinks the same way as you do,” said K. “I’ve been indicted as well but I swear on my soul that I’ve neither submitted evidence nor done anything else of the sort. Do you really think that’s necessary?” “I don’t really know, exactly,” said the man, once more totally unsure of himself; he clearly thought K. was joking with him and therefore probably thought it best to repeat his earlier answer in order to avoid making any new mistakes. With K. looking at him impatiently, he just said, “as far as I’m concerned, I’ve applied to have this evidence heard.” “Perhaps you don’t believe I’ve been indicted?” asked K. “Oh, please, I certainly do,” said the man, stepping slightly to one side, but there was more anxiety in his answer than belief. “You don’t believe me then?” asked K., and took hold of his arm, unconsciously prompted by the man’s humble demeanour, and as if he wanted to force him to believe him. But he did not want to hurt the man and had only taken hold of him very lightly. Nonetheless, the man cried out as if K. had grasped him not with two fingers but with red hot tongs. Shouting in this ridiculous way finally made K. tired of this effect than K.’s. “I’m . . . I’m waiting . . . “ he began, and then came to a halt. He had clearly chosen this beginning so that he could give a precise answer to the question, but now he didn’t know how to continue. 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Shouting in this ridiculous way finally made K. tired of him, if he didn’t believe he was indicted then so much the better; maybe he even thought K. was a judge. And before leaving, he held him a lot harder, shoved him back onto the bench and walked on. “These defendants are so sensitive, most of them,” said the usher of the court. Al-
most all of those who had been waiting had now assembled around the man who, by now, had stopped shouted and they seemed to be asking him lots of precise questions about the incident. K. was approached by a security guard, identifiable mainly by his sword, of which the scabbard seemed to be made of aluminium. This greatly surprised K., and he reached out for it with his hand. The guard had come because of the shouting and asked what had been happening. The usher of the court said a few words to try and calm him down but the guard explained that he had to look into it himself, saluted, and hurried on, walking with very short steps, probably because of gout.

K. didn’t concern himself long with the guard or these people, especially as he saw a turning off the corridor, about half way along it on the right hand side, where there was no door to stop him going that way. He asked the usher whether that was the right way to go, the usher nodded, and that is the way that K. went. The usher remained always one or two steps behind K., which he found irritating as in a place like this it could give the impression that he was being driven along by someone who had arrested him, so he frequently waited for the usher to catch up, but the usher always remained behind him. In order to put an end to his discomfort, K. finally said, “Now that I’ve seen what it looks like here, I’d like to go.” “You haven’t seen everything yet,” said the usher ingenuously. “I don’t want to see everything,” said K., who was also feeling very tired, “I want to go, what is the way to the exit?” “You haven’t got lost, have you?” asked the usher in amazement, “you go down this way to the corner, then right down the corridor straight ahead as far as the door.” “Come with me,” said K., “show me the way, I’ll miss it, there are so many different ways here.” “It’s the only way there is,” said the usher, who had now started to sound quite reproachful, “I can’t go back with you again, I’ve got to hand in my report, and I’ve already lost a lot of time because of you as it is.” “Come with me!” K. repeated, now somewhat sharper as if he had finally caught the usher out in a lie. “Don’t shout like that,” whispered the usher, “there’s offices all round us here. If you don’t want to go back by yourself come on a bit further with me or else wait here till I’ve sorted out my report, then I’ll be glad to go back with you again.” “No, no;” said K., “I will not wait and you must come with me now.” K. had still not looked round at anything at all in the room where he found himself, and it was only when one of the many wooden doors all around him opened that he noticed it. A young woman, probably summoned by the loudness of K.’s voice, entered and asked, “What is it the gentleman wants?” In the darkness behind her there was also a man approaching. K. looked at the usher. He had, after all, said that no-one would take any notice of K., and now there were two people coming, it only needed a few and everyone in the office would become aware of him and asking for explanations as to why he was there. The only understandable and acceptable thing to say was that he was accused of something and wanted to know the date of his next hearing, but this was an explanation he did not want to give, especially as it was not true—he had only come out of curiosity. Or else, an explanation even less usable, he could say that he wanted to ascertain that the court was as revolting on the inside as it was on the outside. And it did seem that he had been quite right in this supposition, he had no wish to intrude any deeper, he was disturbed enough by what he had seen already, he was not in the right frame of mind just then to face a high official such as might appear from behind any door, and he wanted to go, either with the usher of the court or, if needs be, alone.

But he must have seemed very odd standing there in silence, and the young woman and the usher were indeed looking at him as if they thought he would go through some major metamorphosis any second which they didn’t want to miss seeing. And in the doorway stood the man whom K. had noticed in the background earlier, he held firmly on to the beam above the low door swinging a little on the tips of his feet as if becoming impatient as he watched. But the young woman was the first to recognise that K.’s behaviour was caused by his feeling slightly unwell, she brought a chair and asked, “Would you not like to sit down?” K. sat down immediately and, in order to keep his place better, put his elbows on the armrests. “You’re a little bit dizzy, aren’t you?” she asked him. Her face was now close in front of him, it bore the severe expression that many young women have just when they’re in the bloom of their youth. “It’s nothing for you to worry about,” she said, “that’s nothing unusual here, almost everyone gets an attack like that the first time they come here. This is your first time is it? Yes, it’s nothing unusual then. The sun burns down on the roof and the hot wood makes the air so thick and heavy. It makes this place rather unsuitable for offices, whatever other advantages it might offer. But the air is almost impossible to breathe on days when there’s a lot of business, and that’s almost every day. And when you think that there’s a lot of washing put out to dry here as well—and we can’t stop the tenants doing that—it’s not surprising you started to feel unwell. But you get used to the air alright in the end. When you’re here for the second or third time you’ll hardly notice how oppressive the air is. Are you feeling any better now?” K. made no answer, he felt too embarrassed at being put at the mercy of these people by his sudden weakness, and learning the reason for feeling ill made him feel not better but a little worse. The girl noticed it straight away, and to make
the air fresher for K., she took a window pole that was leaning against the wall and pushed open a small hatch directly above K.’s head that led to the outside. But so much soot fell in that the girl had to immediately close the hatch again and clean the soot off K.’s hands with her handkerchief, as K. was too tired to do that for himself. He would have liked just to sit quietly where he was until he had enough strength to leave, and the less fuss people made about him the sooner that would be. But then the girl said, “You can’t stay here, we’re in people’s way here . . .” K. looked at her as if to ask whose way they were impeding. “If you like, I can take you to the sick room,” and turning to the man in the doorway said, “please help me”. The man immediately came over to them, but K. did not want to go to the sick room, that was just what he wanted to avoid, being led further from place to place, the further he went the more difficult it must become. So he said, “I am able to walk now,” and stood up, shaking after becoming used to sitting so comfortably. But then he was unable to stay upright. “I can’t manage it,” he said shaking his head, and sat down again with a sigh. He remembered the usher who, despite everything, would have been able to lead him out of there but who seemed to have gone long before. K. looked out between the man and the young woman who were standing in front of him but was unable to find the usher. “I think,” said the man, who was elegantly dressed and whose appearance was made especially impressive with a grey waistcoat that had two long, sharply tailored points, “the gentleman is feeling unwell because of the atmosphere here, so the best thing, and what he would most prefer, would be not to take him to the sick room but get him out of the offices altogether.” “That’s right,” exclaimed K., with such joy that he nearly interrupted what the man was saying, “I’m sure that’ll make me feel better straight away, I’m really not that weak, all I need is a little support under my arms, I won’t cause you much trouble, it’s not such a long way anyway, lead me to the door and then I’ll sit on the stairs for a while and soon recover, as I don’t suffer from attacks like this at all, I’m surprised at it myself. I also work in an office and I’m quite used to office air, but here it seems to be too strong, you’ve said so yourselves. So please, be so kind as to help me on my way a little, I’m feeling dizzy, you see, and it’ll make me ill if I stand up by myself.” And with that he raised his shoulders to make it easier for the two of them to take him by the arms.

The man, however, didn’t follow this suggestion but just stood there with his hands in his trouser pockets and laughed out loud. “There, you see,” he said to the girl, “I was quite right. The gentleman is only unwell here, and not in general.” The young woman smiled too, but lightly tapped the man’s arm with the tips of her fingers as if he had allowed himself too much fun with K. “So what do you think, then?” said the man, still laughing, “I really do want to lead the gentleman out of here.” “That’s alright, then,” said the girl, briefly inclining her charming head. “Don’t worry too much about him laughing,” said the girl to K., who had become unhappy once more and stared quietly in front of himself as if needing no further explanation. “This gentleman—may I introduce you?”—(the man gave his permission with a wave of the hand)—“so, this gentleman’s job is to give out information. He gives all the information they need to people who are waiting, as our court and its offices are not very well known among the public he gets asked for quite a lot. He has an answer for every question, you can try him out if you feel like it. But that’s not his only distinction, his other distinction is his elegance of dress. We, that’s to say all of us who work in the offices here, we decided that the information-giver would have to be elegantly dressed as he continually has to deal with the litigants and he’s the first one they meet, so he needs to give a dignified first impression. The rest of us I’m afraid, as you can see just by looking at me, dress very badly and old-fashioned; and there’s not much point in spending much on clothes anyway, as we hardly ever leave the offices, we even sleep here. But, as I said, we decided that the information-giver would have to have nice clothes. As the management here is rather peculiar in this respect, and they would get them for us, we had a collection—some of the litigants contributed too—and bought him these lovely clothes and some others besides. So everything would be ready for him to give a good impression, except that he spoils it again by laughing and frightening people.” “That’s how it is,” said the man, mocking her, “but I don’t understand why it is that you’re explaining all our intimate facts to the gentleman, or rather why it is that you’re pressing them on him, as I’m sure he’s not all interested. Just look at him sitting there, it’s clear he’s occupied with his own affairs.” K. just did not feel like contradicting him. The girl’s intention may have been good, perhaps she was under instructions to distract him or to give him the chance to collect himself, but the attempt had not worked. “I had to explain to him why you were laughing,” said the girl. “I suppose it was insulting.” “I think he would forgive even worse insults if I finally took him outside.” K. said nothing, did not even look up, he tolerated the two of them negotiating over him like an object, that was even what suited him best. But suddenly he felt the information-giver’s hand on one arm and the young woman’s hand on the other. “Up you get then, weakling,” said the information-giver. “Thank you both very much,” said K., pleasantly surprised, as he slowly rose and personally guided these unfamiliar hands to the places where he most needed
support. As they approached the corridor, the girl said quietly into K.’s ear, “I must seem to think it’s very important to show the information-giver in a good light, but you shouldn’t doubt what I say. I just want to say the truth. He isn’t hard-hearted. It’s not really his job to help litigants outside if they’re unwell but he’s doing it anyway, as you can see. I don’t suppose any of us is hard-hearted, perhaps we’d all like to be helpful, but working for the court offices it’s easy for us to give the impression we are hard-hearted and don’t want to help anyone. It makes me quite sad.” “Would you not like to sit down here a while?” asked the information-giver, there were already in the corridor and just in front of the defendant whom K. had spoken to earlier. K. felt almost ashamed to be seen by him, earlier he had stood so upright in front of him and now he had to be supported by two others, his hat was held up by the information-giver balanced on outstretched fingers, his hair was dishevelled and hung down onto the sweat on his forehead. But the defendant seemed to notice nothing of what was going on and just stood there humbly, as if wanting to apologise to the information-giver for being there. The information-giver looked past him. “I know,” he said, “that my case can’t be settled today, not yet, but I’ve come in anyway, I thought, I thought I could wait here anyway, it’s Sunday today, I’ve got plenty of time, and I’m not disturbing anyone here.” “There’s no need to be so apologetic,” said the information-giver, “it’s very commendable for you to be so attentive. You are taking up space here when you don’t need to but as long as you don’t get in my way I will do nothing to stop you following the progress of your case as closely as you like. When one has seen so many people who shamefully neglect their cases one learns to show patience with people like you. Do sit down.” “He’s very good with the litigants,” whispered the girl. K. nodded, but started to move off again when the information-giver repeated, “Would you not like to sit down here a while?” “No,” said K., “I don’t want to rest.” He had said that with as decisively as he could, but in fact it would have done him a lot of good to sit down. It was as if he were suffering sea-sickness. He felt as if he were on a ship in a rough sea, as if the water were hitting against the wooden walls, a thundering from the depths of the corridor as if the torrent were crashing over it, as if the corridor were swaying and the waiting litigants on each side of it rising and sinking. It made the calmness of the girl and the man leading him all the more incomprehensible. He was at their mercy, if they let go of him he would fall like a board. Their little eyes glanced here and there. K. could feel the evenness of their steps but could not do the same, as from step to step he was virtually being carried. He finally noticed they were speaking to him but he did not understand them, all he heard was a noise that filled all the space and through which there seemed to be an unchanging higher note sounding, like a siren. “Louder,” he whispered with his head sunk low, ashamed at having to ask them to speak louder when he knew they had spoken loudly enough, even if it had been, for him, incomprehensible. At last, a draught of cool air blew in his face as if a gap had been torn out in the wall in front of him, and next to him he heard someone say, “First he says he wants to go, and then you can tell him a hundred times that this is the way out and he doesn’t move.” K. became aware that he was standing in front of the way out, and that the young woman had opened the door. It seemed to him that all his strength returned to him at once, and to get a foretaste of freedom he stepped straight on to one of the stairs and took his leave there of his companions, who bowed to him. “Thank you very much,” he repeated, shook their hands once more and did not let go until he thought he saw that they found it hard to bear the comparatively fresh air from the stairway after being so long used to the air in the offices. They were hardly able to reply, and the young woman might even have fallen over if K. had not shut the door extremely fast. K. then stood still for a while, combed his hair with the help of a pocket mirror, picked up his hat from the next stair—the information-giver must have thrown it down there—and then he ran down the steps so fresh and in such long leaps that the contrast with his previous state nearly frightened him. His normally sturdy state of health had never prepared him for surprises such as this. Did his body want to revolt and cause him a new trial as he was bearing the old one with such little effort? He did not quite reject the idea that he should see a doctor the next time he had the chance, but whatever he did—and this was something on which he could advise himself—he wanted to spend all Sunday mornings in future better than he had spent this one.

Chapter 4: Miss Brüstner’s Friend

For some time after this, K. found it impossible to exchange even just a few words with Miss Brüstner. He tried to reach her in many and various ways but she always found a way to avoid it. He would come straight home from the office, remain in her room without the light on, and sit on the sofa with nothing more to distract him than keeping watch on the empty hallway. If the maid went by and closed the door of the apparently empty room he would get up after a while and open it again. He got up an hour earlier than usual in the morning so that he might perhaps find Miss Brüstner alone as she went to the office. But none of these efforts brought any success. Then he wrote her a letter, both to the office and the flat, attempting once more to justify his
behaviour, offered to make whatever amends he could, promised never to cross whatever boundary she might set him and begged merely to have the chance to speak to her some time, especially as he was unable to do anything with Mrs. Grubach either until he had spoken with Miss Brüstner, he finally informed her that the following Sunday he would stay in his room all day waiting for a sign from her that there was some hope of his request being fulfilled, or at least that she would explain to him why she could not fulfil it even though he had promised to observe whatever stipulations she might make. The letters were not returned, but there was no answer either. However, on the following Sunday there was a sign that seemed clear enough. It was still early when K. noticed, through the keyhole, that there was an unusual level of activity in the hallway which soon abated. A French teacher, although she was German and called Montag, a pale and febrile girl with a slight limp who had previously occupied a room of her own, was moving into Miss Brüstner’s room. She could be seen shuffling through the hallway for several hours, there was always another piece of clothing or a blanket or a book that she had forgotten and had to be fetched specially and brought into the new home.

When Mrs. Grubach brought K. his breakfast—ever since the time when she had made K. so cross she didn’t trust the maid to do the slightest job—he had no choice but to speak to her, for the first time in five days. “Why is there so much noise in the hallway today?” he asked as she poured his coffee out, “Can’t something be done about it? Does this clearing out have to be done on a Sunday?” K. did not look up at Mrs. Grubach, but he saw nonetheless that she seemed to feel some relief as she breathed in. Even sharp questions like this from Mr. K. she perceived as forgiveness, or as the beginning of forgiveness. “We’re not clearing anything out, Mr. K.,” she said, “it’s just that Miss Montag is moving in with Miss Brüstner and is moving her things across.” She said nothing more, but just waited to see how K. would take it and whether he would allow her to carry on speaking. But K. kept her in uncertainty, took the spoon and pensively stirred his coffee while he remained silent. Then he looked up at her and said, “What about the suspicions you had earlier about Miss Brüstner, have you given them up?” “Mr. K.” called Mrs. Grubach, who had been waiting for this very question, as she put her hands together and held them out towards him. “I just made a chance remark and you took it so badly. I didn’t have the slightest intention of offending anyone, not you or anyone else. You’ve known me for long enough, Mr. K., I’m sure you’re convinced of that. You don’t know how I’ve been suffering for the past few days! That I should tell lies about my tenants! And you, Mr. K., you believed it! And said I should give you notice! Give you notice!” At this last outcry, Mrs. Grubach was already choking back her tears, she raised her apron to her face and blubbered out loud.

“Oh, don’t cry Mrs. Grubach,” said K., looking out the window, he was thinking only of Miss Brüstner and how she was accepting an unknown girl into her room. “Now don’t cry,” he said again as he turned his look back into the room where Mrs. Grubach was still crying. “I meant no harm either when I said that. It was simply a misunderstanding between us. That can happen even between old friends sometimes.” Mrs. Grubach pulled her apron down to below her eyes to see whether K. really was attempting a reconciliation. “Well, yes, that’s how it is,” said K., and as Mrs. Grubach’s behaviour indicated that the captain had said nothing he dared to add, “Do you really think, then, that I’d want to make an enemy of you for the sake of a girl we hardly know?” “Yes, you’re quite right, Mr. K.,” said Mrs. Grubach, and then, to her misfortune, as soon as she felt just a little freer to speak, she added something rather inept. “I kept asking myself why it was that Mr. K. took such an interest in Miss Brüstner. Why does he quarrel with me over her when he knows that any cross word from him and I can’t sleep that night? And I didn’t say anything about Miss Brüstner that I hadn’t seen with my own eyes.” K. said nothing in reply, he should have chased her from the room as soon as she had opened her mouth, and he didn’t want to do that. He contented himself with merely drinking his coffee and letting Mrs. Grubach feel that she was superfluous. Outside, the dragging steps of Miss Montag could still be heard as she went from one side of the hallway to the other. “Do you hear that?” asked K. pointing his hand at the door. “Yes,” said Mrs. Grubach with a sigh, “I wanted to give her some help and I wanted the maid to help her too but she’s stubborn, she wants to move everything in herself. I wonder at Miss Brüstner. I often feel it’s a burden for me to have Miss Montag as a tenant but Miss Brüstner accepts her into her room without herself. “There’s nothing there for you to worry about” said K., crushing the remains of a sugar lump in his cup. “Does she cause you any trouble?” “No,” said Mrs. Grubach, “in itself it’s very good to have her there, it makes another room free for me and I can let my nephew, the captain, occupy it. I began to worry he might be disturbing you when I had to let him live in the living room next to you over the last few days. He’s not very considerate.” “What an idea!” said K. standing up, “there’s no question of that. You seem to think that because I can’t stand this to-ing and fro-ing of Miss Montag that I’m over-sensitive—and there she goes back again.” Mrs. Grubach appeared quite powerless. “Should I tell her to leave moving the rest of her things over till later, then,
Mr. K.? If that’s what you want I’ll do it immediately.” “But she has to move in with Miss Brüstner!” said K. “Yes,” said Mrs. Grubach, without quite understanding what K. meant. “So she has to take her things over there.” Mrs. Grubach just nodded. K. was irritated all the more by this dumb helplessness which, seen from the outside, could have seemed like a kind of defiance on her part. He began to walk up and down the room between the window and the door, thus depriving Mrs. Grubach of the chance to leave, which she otherwise probably would have done.

Just as K. once more reached the door, someone knocked at it. It was the maid, to say that Miss Montag would like to have a few words with Mr. K., and therefore requested that he come to the dining room where she was waiting for him. K. heard the maid out thoughtfully, and then looked back at the shocked Mrs. Grubach in a way that was almost contemptuous. His look seemed to be saying that K. had been expecting this invitation for Miss Montag for a long time, and that it was confirmation of the suffering he had been made to endure that Sunday morning from Mrs. Grubach’s tenants. He sent the maid back with the reply that he was on his way, then he went to the wardrobe to change his coat, and in answer to Mrs. Grubach’s gentle whining about the nuisance Miss Montag was causing merely asked her to clear away the breakfast things. “But you’ve hardly touched it,” said Mrs. Grubach. “Oh just take it away!” shouted K. It seemed to him that Miss Montag was mixed up in everything and made it repulsive to him.

As he went through the hallway he looked at the closed door of Miss Brüstner’s room. But it wasn’t there that he was invited, but the dining room, to which he yanked the door open without knocking.

The room was long but narrow with one window. There was only enough space available to put two cupboards at an angle in the corner by the door, and the rest of the room was entirely taken up with the long dining table which started by the door and reached all the way to the great window, which was thus made almost inaccessible. The table was already laid for a large number of people, as on Sundays almost all the tenants ate their dinner here at midday.

When K. entered, Miss Montag came towards him from the window along one side of the table. They greeted each other in silence. Then Miss Montag, her head unusually erect as always, said, “I’m not sure whether you know me.” K. looked at her with a frown. “Of course I do,” he said, “you’ve been living here with Mrs. Grubach for quite some time now.” “But I get the impression you don’t pay much attention to what’s going on in the lodging house,” said Miss Montag. “No,” said K. “Would you not like to sit down?” said Miss Montag.

In silence, the two of them drew chairs out from the farthest end of the table and sat down facing each other. But Miss Montag stood straight up again as she had left her handbag on the window sill and went to fetch it; she shuffled down the whole length of the room. When she came back, the handbag lightly swinging, she said, “I’d like just to have a few words with you on behalf of my friend. She would have come herself, but she’s feeling a little unwell today. Perhaps you’ll be kind enough to forgive her and listen to me instead. There’s anyway nothing that she could have said that I won’t. On the contrary, in fact, I think I can say even more than her because I’m relatively impartial. Would you not agree?” “What is there to say, then?” answered K., who was tired of Miss Montag continuously watching his lips. In that way she took control of what he wanted to say before he said it. “Miss Brüstner clearly refuses to grant me the personal meeting that I asked her for.” “That’s how it is,” said Miss Montag, “or rather, that’s not at all how it is, the way you put it is remarkably severe. Generally speaking, meetings are neither granted nor the opposite. But it can be that meetings are considered unnecessary, and that’s how it is here. Now, after your comment, I can speak openly. You asked my friend, verbally or in writing, for the chance to speak with her. Now my friend is aware of your reasons for asking for this meeting—or at least I suppose she is—and so, for reasons I know nothing about, she is quite sure that it would be of no benefit to anyone if this meeting actually took place. Moreover, it was only yesterday, and only very briefly, that she made it clear to me that such a meeting could be of no benefit for yourself either, she feels that it can only have been a matter of chance that such an idea came to you, and that even without any explanations from her, you will very soon come to realise yourself, if you have not done so already, the futility of your idea. My answer to that is that although it may be quite right, I consider it advantageous, if the matter is to be made perfectly clear, to give you an explicit answer. I offered my services in taking on the task, and after some hesitation my friend conceded. I hope, however, also to have acted in your interests, as even the slightest uncertainty in the least significant of matters will always remain a cause of suffering and if, as in this case, it can be removed without substantial effort, then it is better if that is done without delay.” “I thank you,” said K. as soon as Miss Montag had finished. He stood slowly up, looked at her, then across the table, then out the window—the house opposite stood there in the sun—and went to the door. Miss Montag followed him a few paces, as if she did not quite trust him. At the door, however, both of them had to stop back as it opened and Captain Lanz entered. This was the first time that K. had seen him close up. He was a large man of about forty
he had hardly expected to be able to find Miss Brüstner in the dining room. K. was not greatly bothered by this, have gone out while Miss Montag was speaking to him the door, a wardrobe stood open. Miss Brüstner must
Against the wall there were now two beds behind one
looked hardly at all like the room K. had known before.

In the room there was no-one. What's more, it
of doing something that was not only improper but also
no result, he carefully opened the door with the sense
knocked harder, eventually, when the knocking brought
was she just pretending as she realised it could only be K.

K. assumed she was pretending and
was she asleep? Or was she really unwell?

sound so he knocked again but there was still no answer
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Against the wall there were now two beds behind one
another, there were clothes piled up on three chairs near
doors, a wardrobe stood open. Miss Brüstner must
have gone out while Miss Montag was speaking to him
in the dining room. K. was not greatly bothered by this,
he had hardly expected to be able to find Miss Brüstner

Chapter 5: The whip-man

One evening, a few days later, K. was walking along one
of the corridors that separated his office from the main
stairway—he was nearly the last one to leave for home
that evening, there remained only a couple of workers in
the light of a single bulb in the dispatch department—

when he heard a sigh from behind a door which he had
himself never opened but which he had always thought
just led into a junk room. He stood in amazement and
listened again to establish whether he might not be mis-

taken. For a while there was silence, but then came
some more sighs. His first thought was to fetch one
of the servitors, it might well have been worth having a
witness present, but then he was taken by an uncont-
rollable curiosity that make him simply yank the door
open. It was, as he had thought, a junk room. Old, unus-
able forms, empty stone ink-bottles lay scattered behind
the entrance. But in the cupboard-like room itself stood
three men, crouching under the low ceiling. A candle
fixed on a shelf gave them light. “What are you doing
here?” asked K. quietly, but crossly and without think-
ing. One of the men was clearly in charge, and attracted
attention by being dressed in a kind of dark leather cos-
tume which left his neck and chest and his arms exposed.

He did not answer. But the other two called out, “Mr.
K.! We’re to be beaten because you made a complaint
about us to the examining judge.” And now, K. finally
realised that it was actually the two policemen, Franz
and Willem, and that the third man held a cane in his
hand with which to beat them. “Well,” said K., staring
at them, “I didn’t make any complaint, I only said what
took place in my home. And your behaviour was not en-
commodious which left his neck and chest and his arms exposed.

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took place in my home. And your behaviour was not en-
commodious which left his neck and chest and his arms exposed.
lowed to do that sort of thing, course they aren’t, and it wasn’t right of us, but it’s tradition that the clothes go to the officers, that’s how it’s always been, believe me; and it’s understandable too, isn’t it, what can things like that mean for anyone unlucky enough to be arrested? But if he starts talking about it openly then the punishment has to follow.” “I didn’t know about any of this that you’ve been telling me, and I made no sort of request that you be punished, I was simply acting on principle.” “Franz,” said Willem, turning to the other policeman, “didn’t I tell you that the gentleman didn’t say he wanted us to be punished? Now you can hear for yourself, he didn’t even know we’d have to be punished.” “Don’t you let them persuade you, talking like that,” said the third man to K., “this punishment is both just and unavoidable.” “Don’t listen to him,” said Willem, interrupting himself only to quickly bring his hand to his mouth when it had received a stroke of the cane, “we’re only being punished because you made a complaint against us. Nothing would have happened to us otherwise, not even if they’d found out what we’d done. Can you call that justice? Both of us, me especially, we’d proved our worth as good police officers over a long period—you’ve got to admit yourself that as far as official work was concerned we did the job well—things looked good for us, we had prospects, it’s quite certain that we would’ve been made whip-men too, like this one, only he had the luck not to have anyone make a complaint about him, as you really don’t get many complaints like that. Only that’s all finished now, Mr. K., our careers are at an end, we’re going to have to do work now that’s far inferior to police work and besides all this we’re going to get this terrible, painful beating.” “Can the cane really cause so much pain, then?” asked K., testing the cane that the whip-man was holding in both hands and taking hold of the cane in both hands and laying in to Franz while Willem cowered back in a corner. “I’m not going to wait any longer,” said the whip-man, shaking his head with a laugh. “Get undressed!” he ordered the whispering, “I would make it well worth your while if you would let them go,” said K., and without looking at the whip-man again—as such matters are best carried on with both pairs of eyes turned down—he pulled out his wallet. “And then you’d try and put in a complaint against me, too,” said the whip-man, “and get me flogged. No, no!” “Now, do be reasonable,” said K., “if I had wanted to get these two punished I would not now be trying to buy their freedom, would I. I could simply close the door here behind me, go home and see or hear nothing more of it. But that’s not what I’m doing, it really is of much more importance to me to let them go free; if I had realised they would be punished, or even that they might be punished, I would never have named them in the first place as they are not the ones I hold responsible. It’s the organisation that’s to blame. The high officials are the ones to blame.” “That’s how it is!” shouted the policemen, who then immediately received another blow on their backs, which were by now exposed. “If you had a senior judge here beneath your stick,” said K., pressing down the cane as he spoke to stop it being raised once more, “I really would do nothing to stop you, on the contrary, I would even pay you money to give you all the more strength.” “Yeah, that’s all very plausible, what you’re saying there,” said the whip-man, “only I’m not the sort of person you can bribe. It’s my job to flog people, so I flog them.” Franz, the policeman, had been fairly quiet so far, probably in expectation of a good result from K.’s intervention, but now he stepped forward to the door wearing just his trousers, kneeled down hanging on to K.’s arm and whispered, “Even if you can’t get mercy shown for both of us, at least try and get me set free. Willem is older than me, he’s less sensitive than me in every way, he even got a light beating a couple of years ago, but my record’s still clean, I only did things the way I did because Willem led me on to it, he’s been my teacher both for good and bad. Down in front of the bank my poor bride is waiting for me at the entrance, I’m so ashamed of myself, it’s pitiful.” His face was flowing over with tears, and he wiped it dry on K.’s coat. “I’m not going to wait any longer,” said the whip-man, taking hold of the cane in both hands and laying in to Franz while Willem cowered back in a corner and looked on secretly, not even daring to turn his head. Then, the sudden scream that shot out from Franz was long and irrevocable, it seemed to come not from a human being but from an instrument that was being tortured, the whole corridor rang with it, it must have been heard by everyone in the building. “Don’t shout
like that!”, called out K., unable to prevent himself, and, as he looked anxiously in the direction from which the servitor would come, he gave Franz a shove, not hard, but hard enough for him to fall down unconscious, clawing at the ground with his hands by reflex; he still did not avoid being hit; the rod still found him on the floor; the tip of the rod swung regularly up and down while he rolled to and fro under its blows. And now one of the servitors appeared in the distance, with another a few steps behind him. K. had quickly thrown the door shut, gone over to one of the windows overlooking the yard and opened it. The screams had completely stopped. So that the servitor wouldn’t come in, he called out, “It’s only me!” “Good evening, chief clerk,” somebody called back. “Is there anything wrong?” “No, no,” answered K., “it’s only a dog yelping in the yard.” There was no sound from the servitors so he added, “You can go back to what you were doing.” He did not want to become involved with a conversation with them, and so he leant out of the window. A little while later, when he looked out in the corridor, they had already gone. Now, K. remained at the window, he did not dare go back into the junk room, and he did not want to go home either. The yard he looked down into was small and rectangular, all around it were offices, all the windows were now dark and only those at the very top caught a reflection of the moon. K tried hard to see into the darkness of one corner of the yard, where a few handcarts had been left behind one another. He felt anguish at not having been able to prevent the flogging, but that was not his fault, if Franz had not screamed like that—clearly it must have caused a great deal of pain but it’s important to maintain control of oneself at important moments—if Franz had not screamed then it was at least highly probable that K. would have been able to dissuade the whip-man. If all the junior officers were contemptible why would the whip-man, whose position was the most inhumane of all, be any exception, and K. had noticed very clearly how his eyes had lit up when he saw the banknotes, he had obviously only seemed serious about the flogging to raise the level of the bitrate a little. And K. had not been ungenerous, he really had wanted to get the policemen freed; if he really had now begun to do something against the degeneracy of the court then it was a matter of course that he would have to do something here as well. But of course, it became impossible for him to do anything as soon as Franz started screaming. K. could not possibly have let the junior bank staff, and perhaps even all sorts of other people, come along and catch him by surprise as he haggled with those people in the junk room. Nobody could really expect that sort of sacrifice of him. If that had been his intention then it would almost have been easier. K. would have taken his own clothes off and offered himself to the whip-man in the policemen’s place. The whip-man would certainly not have accepted this substitution anyway, as in that way he would have seriously violated his duty without gaining any benefit. He would most likely have violated his duty twice over, as court employees were probably under orders not to cause any harm to K. while he was facing charges, although there may have been special conditions in force here. However things stood, K. was able to do no more than throw the door shut, even though that would still do nothing to remove all the dangers he faced. It was regrettable that he had given Franz a shove, and it could only be excused by the heat of the moment.

In the distance, he heard the steps of the servitors; he did not want them to be too aware of his presence, so he closed the window and walked towards the main staircase. At the door of the junk room he stopped and listened for a little while. All was silent. The two policemen were entirely at the whip-man’s mercy; he could have beaten them to death. K. reached his hand out for the door handle but drew it suddenly back. He was no longer in any position to help anyone, and the servitors would soon be back; he did, though, promise himself that he would raise the matter again with somebody and see that, as far as it was in his power, those who really were guilty, the high officials whom nobody had so far dared point out to him, received their due punishment. As he went down the main stairway at the front of the bank, he looked carefully round at everyone who was passing, but there was no girl to be seen who might have been waiting for somebody, not even within some distance from the bank. Franz’s claim that his bride was waiting for him was thus shown to be a lie, albeit one that was forgivable and intended only to elicit more sympathy.

The policemen were still on K.’s mind all through the following day; he was unable to concentrate on his work and had to stay in his office a little longer than the previous day so that he could finish it. On the way home, as he passed by the junk room again, he opened its door as if that had been his habit. Instead of the darkness he expected, he saw everything unchanged from the previous evening, and did not know how he should respond. Everything was exactly the same as he had seen it when he had opened the door the previous evening. The forms and bottles of ink just inside the doorway, the whip-man with his cane, the two policemen, still undressed, the candle on the shelf, and the two policemen began to wail and call out “Mr. K.!” K. slammed the door immediately shut, and even thumped on it with his fists as if that would shut it all the firmer. Almost in tears, he ran to the servitors working quietly at the copying machine. “Go and get that junk room cleared out!” he shouted, and, in amazement, they stopped what they were doing. “It should have been done long ago, we’re sinking in dirt!” They would be able
to do the job the next day. K. nodded, it was too late in
the evening to make them do it there and then as he had
originally intended. He sat down briefly in order to keep
them near him for a little longer, looked through a few
of the copies to give the impression that he was check-
ning them and then, as he saw that they would not dare to
leave at the same time as himself, went home tired and
with his mind numb.

Chapter 6: K.’s uncle—Leni

One afternoon—K. was very busy at the time, getting
the post ready—K.’s Uncle Karl, a small country land
owner, came into the room, pushing his way between
two of the staff who were bringing in some papers. K.
had long expected his uncle to appear, but the sight of
him now shocked K. far less than the prospect of it had
done a long time before. His uncle was bound to come,
K. had been sure of that for about a month. He already
thought at the time he could see how his uncle would ar-
rive, slightly bowed, his battered panama hat in his left
hand, his right hand already stretched out over the desk
long before he was close enough as he rushed careless-
towards K. knocking over everything that was in his way.
K.’s uncle was always in a hurry, as he suffered from
an unfortunate belief that he had a number things to do
while he was in the big city and had to settle all of them
in one day—his visits were only ever for one day—and
at the same time thought he could not forgo any conver-
sation or piece of business or pleasure that might arise
by chance. Uncle Karl was K.’s former guardian, and so
K. was duty-bound to help him in all of this as well as
to offer him a bed for the night. ‘I’m haunted by a ghost
from the country’, he would say.

As soon as they had greeted each other—K. had in-
vited him to sit in the armchair but Uncle Karl had no
time for that—he said he wanted to speak briefly with K.
in private. “It is necessary,” he said with a tired gulp, “it
is necessary for my peace of mind.” K. immediately sent
the junior staff from the room and told them to let no-one
in. “What’s this that I’ve been hearing, Josef?” cried K.’s
uncle when they were alone, as he sat on the table shov-
ings various papers under himself without looking at them
to make himself more comfortable. K. said nothing, he
knew what was coming, but, suddenly relieved from the
effort of the work he had been doing, he gave way to a
pleasant lassitude and looked out the window at the other
side of the street. From where he sat, he could see just a
small, triangular section of it, part of the empty walls of
houses between two shop windows. “You’re staring out
the window!” called out his uncle, raising his arms. “For
God’s sake, Josef, give me an answer! Is it true, can it re-
ally be true?” “Uncle Karl,” said K., wrenching himself
back from his daydreaming, “I really don’t know what it
is you want of me.” “Josef,” said his uncle in a warning
tone, “as far as I know, you’ve always told the truth. Am
I to take what you’ve just said as a bad sign?” “I think
I know what it is you want,” said K. obediently, “I expect
you’ve heard about my trial.” “That’s right,” answered
his uncle with a slow nod, “I’ve heard about your trial.”

“Who did you hear it from, then?” asked K. “Erna wrote
to me,” said his uncle, “she doesn’t have much contact
with you, it’s true, you don’t pay very much attention to
her, I’m afraid to say, but she learned about it nonethe-
less. I got her letter today and, of course, I came straight
here. And for no other reason, but it seems to me that
this is reason enough. I can read you out the part of the
letter that concerns you.” He drew the letter out from his
wallet. “Here it is. She writes; ‘I have not seen Josef
for a long time, I was in the bank last week but Josef
was so busy that they would not let me through; I waited
there for nearly an hour but then I had to go home as I
had my piano lesson. I would have liked to have spoken
to him, maybe there will be a chance another time. He
sent me a big box of chocolates for my name-day, that
was very nice and attentive of him. I forgot to tell you
about it when I wrote, and I only remember now that you
ask me about it. Chocolate, as I am sure you are aware,
disappears straight away in this lodging house, almost as
soon as you know somebody has given you chocolate it
is gone. But there is something else I wanted to tell you
about Josef. Like I said, they would not let me through
to see him at the bank because he was negotiating with
some gentleman just then. After I had been waiting qui-
etly for quite a long time I asked one of the staff whether
his meeting would last much longer. He said it might
well do, as it was probably about the legal proceedings,
he said, that were being conducted against him. I asked
what sort of legal proceedings it was that were being con-
ducted against the chief clerk, and whether he was not
making some mistake, but he said he was not making
any mistake, there were legal proceedings underway and
even that they were about something quite serious, but
he did not know any more about it. He would have liked
to have been of some help to the chief clerk himself, as
the chief clerk was a gentleman, good and honest, but he
did not know what it was he could do and merely hoped
there would be some influential gentlemen who would
take his side. I’m sure that is what will happen and that
everything will turn out for the best in the end, but in the
mean time things do not look at all good, and you can
see that from the mood of the chief clerk himself. Of
course, I did not place too much importance on this con-
versation, and even did my best to put the bank clerk’s
mind at rest, he was quite a simple man. I told him he
was not to speak to anyone else about this, and I think it

is all just a rumour, but I still think it might be good if you, Dear Father, if you looked into the matter the next time you visit. It will be easy for you to find out more detail and, if it is really necessary, to do something about it through the great and influential people you know. But if it is not necessary, and that is what seems most likely, then at least your daughter will soon have the chance to embrace you and I look forward to it.”—She’s a good child,” said K.’s uncle when he had finished reading, and wiped a few tears from his eyes. K. nodded. With all the different disruptions he had had recently he had completely forgotten about Erna, even her birthday, and the story of the chocolates had clearly just been invented so that he wouldn’t get in trouble with his aunt and uncle. It was very touching, and even the theatre tickets, which he would regularly send her from then on, would not be enough to repay her, but he really did not feel, now, that it was right for him to visit her in her lodgings and hold conversations with a little, eighteen year old schoolgirl. “And what do you have to say about that?” asked his uncle, who had forgotten all his rush and excitement as he read the letter, and seemed to be about to read it again. “Yes, Uncle,” said K., “it is true.” “True!” called out his uncle. “What is true? How can this be true? What sort of trial is it? Not a criminal trial, I hope?” “It’s a criminal trial,” answered K. “And you sit quietly here while you’ve got a criminal trial round your neck?” shouted his uncle, getting ever louder. “The more calm I am, the better it will be for the outcome,” said K. in a tired voice, “don’t worry.” “How can I help worrying?!” shouted his uncle, “Josef, my Dear Josef, think about yourself, about your family, think about our good name! Up till now, you’ve always been our pride, don’t now become our disgrace. I don’t like the way you’re behaving,” he said, looking at K. with his head at an angle, “that’s not how an innocent man behaves when he’s accused of something, not if he’s still got any strength in him. Just tell me what it’s all about so that I can help you. It’s something to do with the bank, I take it?” “No,” said K. as he stood up, “and you’re speaking too loud, Uncle, I expect one of the staff is listening at the door and I find that rather unpleasant. It’s best if we go somewhere else, then I can answer all your questions, as far as I can. And I know very well that I have to account to the family for what I do: “You certainly do!” his uncle shouted, “Quite right, you do. Now just get a move on, Josef, hurry up now!” “I still have a few documents I need to prepare,” said K., and, using the intercom, he summoned his deputy who entered a few moments later. K.’s uncle, still angry and excited, gestured with his hand to show that K. had summoned him, even though there was no need whatever to do so. K. stood in front of the desk and explained to the young man, who listened calm and attentive, what would need to be done that day in his absence, speaking in a calm voice and making use of various documents. The presence of K.’s uncle while this was going on was quite disturbing; he did not listen to what was being said, but at first he stood there with eyes wide open and nervously biting his lips. Then he began to walk up and down the room, stopped now and then at the window, or stood in front of a picture always making various exclamations such as, “That is totally incomprehensible to me!” or “Now just tell me, what are you supposed to make of that?!” The young man pretended to notice nothing of this and listened to K.’s instructions through to the end, he made a few notes, bowed to both K. and his uncle and then left the room. K.’s uncle had turned his back to him and was looking out the window, bunching up the curtains with his outstretched hands. The door had hardly closed when he called out, “At last! Now that he’s stopped jumping about we can go too!” Once they were in the front hall of the bank, where several members of staff were standing about and where, just then, the deputy director was walking across, there was unfortunately no way of stopping K.’s uncle from continually asking questions about the trial. “Now then, Josef,” he began, lightly acknowledging the bows from those around them as they passed, “tell me everything about this trial; what sort of trial is it?” K. made a few comments which conveyed little information, even laughed a little, and it was only when they reached the front steps that he explained to his uncle that he had not wanted to talk openly in front of those people. “Quite right,” said his uncle, “but now start talking.” With his head to one side, and smoking his cigar in short, impatient draughts, he listened. “First of all, Uncle,” said K., “it’s not a trial like you’d have in a normal courtroom,” “So much the worse,” said his uncle. “How’s that?” asked K., looking at him. “What I mean is, that’s for the worse,” he repeated. They were standing on the front steps of the bank; as the doorkeeper seemed to be listening to what they were saying K. drew his uncle down further, where they were absorbed into the bustle of the street. His uncle took K.’s arm and stopped asking questions with such urgency about the trial, they walked on for a while in silence. “But how did all this come about?” he eventually asked, stopping abruptly enough to startle the people walking behind, who had to avoid walking into him. “Things like this don’t come all of a sudden, they start developing a long time beforehand, there must have been warning signs of it, why didn’t you write to me? You know I’d do anything for you, to some extent I am still your guardian, and until today that’s something I was proud of. I’ll still help you, of course I will, only now, now that the trial is already underway, it makes it very difficult. But whatever; the best thing now is for you to take a short holiday staying with
us in the country. You’ve lost weight, I can see that now. The country life will give you strength, that will be good, there’s bound to be a lot of hard work ahead of you. But besides that it’ll be a way of getting you away from the court, to some extent. Here they’ve got every means of showing the powers at their disposal and they’re automatically bound to use them against you; in the country they’ll either have to delegate authority to different bodies or just have to try and bother you by letter, telegram or telephone. And that’s bound to weaken the effect, it won’t release you from them but it’ll give you room to breathe.” “You could forbid me to leave,” said K., who had been drawn slightly into his uncle’s way of thinking by what he had been saying. “I didn’t think you would do it,” said his uncle thoughtfully, “you won’t suffer too much loss of power by moving away.” K. grasped his uncle under the arm to prevent him stopping still and said, “I thought you’d think all this is less important than I do, and now you’re taking it so hard.” “Josef,” called his uncle trying to disentangle himself from him so that he could stop walking, but K. did not let go, “you’ve completely changed, you used to be so astute, are you losing it now? Do you want to lose the trial? Do you realise what that would mean? That would mean you would be simply destroyed. And that everyone you know would be pulled down with you or at the very least humiliated, disgraced right down to the ground. Josef, pull yourself together. The way you’re so indifferent about it, it’s driving me mad. Looking at you I can almost believe that old saying: ‘Having a trial like that means losing a trial like that.’” “My dear Uncle,” said K., “it won’t do any good to get excited, it’s no good for you to do it and it’d be no good for me to do it. The case won’t be won by getting excited, and please admit that my practical experience counts for something, just as I have always and still do respect your experience, even when it surprises me. You say that the family will also be affected by this trial; I really can’t see how, but that’s beside the point and I’m quite willing to follow your instructions in all of this. Only, I don’t see any advantage in staying in the country, not even for you, as that would indicate flight and a sense of guilt. And besides, although I am more subject to persecution if I stay in the city I can also press things forward yourself with all your strength, if so, that will naturally be far better.” “We’re agreed then,” said K. “And do you have any suggestions for what I should do next?” “Well, naturally I’ll have to think about it,” said his uncle, “you must bear in mind that I’ve been living in the country for twenty years now, almost without a break, you lose your ability to deal with matters like this. But I do have some important connections with several people who, I expect, know their way around these things better than I do, and to contact them is a matter of course. Out there in the country I’ve been getting out of condition, I’m sure you’re already aware of that. It’s only at times like this that you notice it yourself. And this affair of yours came largely unexpected, although, oddly enough, I had expected something of the sort after I’d read Erna’s letter, and today when I saw your face I knew it with almost total certainty. But all that is by the by, the important thing now is, we have no time to lose.” Even while he was still speaking, K.’s uncle had stood on tiptoe to summon a taxi and now he pulled K. into the car behind himself as he called out an address to the driver. “We’re going now to see Dr. Huld, the lawyer,” he said, “we were at school together. I’m sure you know the name, don’t you? No? Well that is odd. He’s got a very good reputation as a defence barrister and for working with the poor. But I esteem him especially as someone you can trust.” “It’s alright with me, whatever you do,” said K., although he was made uneasy by the rushed and urgent way his uncle was dealing with the matter. It was not very encouraging, as the accused, be taken to a lawyer for poor people. “I didn’t know,” he said, “that you could take on a lawyer in matters like this.” “Well of course you can,” said his uncle, “that goes with- ing to a lawyer for poor people. “I didn’t know,” he said, “that you could take on a lawyer in matters like this.” “Well of course you can,” said his uncle, “that goes without saying. Why wouldn’t you take on a lawyer? And now, so that I’m properly instructed in this matter, tell me what’s been happening so far.” K. instantly began telling his uncle about what had been happening, holding nothing back—being completely open with him was the only way that K. could protest at his uncle’s belief that the trial was a great disgrace. He mentioned Miss Brüstner’s name just once and in passing, but that did nothing to diminish his openness about the trial as Miss Brüstner had no connection with it. As he spoke, he looked out the window and saw how, just then, they were getting closer to the suburb where the court offices were. He drew this to his uncle’s attention, but he did not find the coinci- dence especially remarkable. The taxi stopped in front of a dark building. K.’s uncle knocked at the very first door at ground level; while they waited he smiled, showing his big teeth, and whispered, “Eight o’clock; not the usual sort of time to be visiting a lawyer, but Huld won’t mind it from me.” Two large, black eyes appeared in the spy- hatch in the door, they stared at the two visitors for a while and then disappeared; the door, however, did not open. K. and his uncle confirmed to each other the fact that they had seen the two eyes. “A new maid, afraid of strangers,” said K.’s uncle, and knocked again. The
eyes appeared once more. This time they seemed almost sad, but the open gas flame that burned with a hiss close above their heads gave off little light and that may have merely created an illusion. “Open the door,” called K.’s uncle, raising his fist against it, “we are friends of Dr. Huld, the lawyer!” “Dr. Huld is ill,” whispered someone behind them. In a doorway at the far end of a narrow passage stood a man in his dressing gown, giving them this information in an extremely quiet voice. K.’s uncle, who had already been made very angry by the long wait, turned abruptly round and retorted, “Ill? You say he’s ill?” and strode towards the gentleman in a way that seemed almost threatening, as if he were the illness himself. “They’ve opened the door for you, now,” said the gentleman, pointing at the door of the lawyer. He pulled his dressing gown together and disappeared. The door had indeed been opened, a young girl—K. recognised the dark, slightly bulging eyes—stood in the hallway in a long white apron, holding a candle in her hand. “Next time, open up sooner!” said K.’s uncle instead of a greeting, while the girl made a slight curtsey. “Come along, Josef,” he then said to K. who was slowly moving over towards the girl. “Dr. Huld is unwell,” said the girl as K.’s uncle, without stopping, rushed towards one of the doors. K. continued to look at the girl in amazement as she turned round to block the way into the living room, she had a round face like a puppy’s, not only the pale cheeks and the chin were round but the temples and the hairline were too. “Josef!” called his uncle once more, and he asked the girl, “It’s trouble with his heart, is it?” “I think it is, sir,” said the girl, who by now had found time to go ahead with the candle and open the door into the room. In one corner of the room, where the light of the candle did not reach, a face with a long beard looked up from the bed. “Leni, who’s this coming in?” asked the lawyer, unable to recognise his guests because he was dazzled by the candle. “It’s your old friend, Albert,” said K.’s uncle. “Oh, Albert,” said the lawyer, falling back onto his pillow as if this visit meant he would not need to keep up appearances. “Is it really as bad as that?” asked K.’s uncle, sitting on the edge of the bed. “I don’t believe it is. It’s a recurrence of your heart trouble and it’ll pass over like the other times.” “Maybe,” said the lawyer quietly, “but it’s just as much trouble as it’s ever been. I can hardly breathe, I can’t sleep at all and I’m getting weaker by the day.” “I see,” said K.’s uncle, pressing his panama hat firmly against his knee with his big hand. “That is bad news. But are you getting the right sort of care? And it’s so depressing in here, it’s so dark. It’s a long time since I was last here, but it seemed to me friendlier then. Even your young lady here doesn’t seem to have much life in her, unless she’s just pretending.” The maid was still standing by the door with the candle; as far as could be made out, she was watching K. more than she was watching his uncle even while the latter was still speaking about her. K. leant against a chair that he had pushed near to the girl. “When you’re as ill as I am,” said the lawyer, “you need to have peace. I don’t find it depressing.” After a short pause he added, “and Leni looks after me well, she’s a good girl.” But that was not enough to persuade K.’s uncle, he had visibly taken against his friend’s carer and, even though he did not contradict the invalid, he persecuted her with his scowl as she went over to the bed, put the candle on the bedside table and, leaning over the bed, made a fuss of him by tidying the pillows. K.’s uncle nearly forgot the need to show any consideration for the man who lay ill in bed, he stood up, walked up and down behind the carer, and K. would not have been surprised if he had grabbed hold of her skirts behind her and dragged her away from the bed. K. himself looked on calmly, he was not even disappointed at finding the lawyer unwell, he had been able to do nothing to oppose the enthusiasm his uncle had developed for the matter, he was glad that this enthusiasm had now been distracted without his having to do anything about it. His uncle, probably simply wishing to be offensive to the lawyer’s attendant, then said, “Young lady, now please leave us alone for a while, I have some personal matters to discuss with my friend.” Dr. Huld’s carer was still leant far over into the invalid’s bed and smoothing out the cloth covering the wall next to it, she merely turned her head and then, in striking contrast with the anger that first stopped K.’s uncle from speaking and then let the words out in a gush, she said very quietly, “You can see that Dr. Huld is so ill that he can’t discuss any matters at all.” It was probably just for the sake of convenience that she had repeated the words spoken by K.’s uncle, but an onlooker might even have perceived it as mocking him and he, of course, jumped up as if he had just been stabbed. “You damned . . . ,” in the first gurglings of his excitement his words could hardly be understood, K. was startled even though he had been expecting something of the sort and ran to his uncle with the intention, no doubt, of closing his mouth with both his hands. Fortunately, though, behind the girl, the invalid raised himself up. K.’s uncle made an ugly face as if swallowing something disgusting and then, somewhat calmer, said, “We have naturally not lost our senses, not yet; if what I am asking for were not possible I would not be asking for it. Now please, go!” The carer stood up straight by the bed directly facing K.’s uncle. K. thought he noticed that with one hand she was stroking the lawyer’s hand. “You can say anything in front of Leni,” said the invalid, in a tone that was unmistakably imploring. “It’s not my business,” said K.’s uncle, “and it’s not my secrets.” And he twisted himself round as if wanting to go into no more negotiations but
giving himself a little more time to think. “Whose business is it then?” asked the lawyer in an exhausted voice as he leant back again. “My nephew’s,” said K.’s uncle, “and I’ve brought him along with me.” And he introduced him, “Chief Clerk Josef K.” “Oh!” said the invalid, now with much more life in him, and reached out his hand towards K. “Do forgive me, I didn’t notice you there at all.” Then he then said to his carer, “Leni, go,” stretching his hand out to her as if this were a farewell that would have to last for a long time. This time the girl offered no resistance. “So you,” he finally said to K.’s uncle, who had also calmed down and stepped closer, “you haven’t come to visit me because I’m ill but you’ve come on business.” The lawyer now looked so much stronger that it seemed the idea of being visited because he was ill had somehow made him weak, he remained supporting himself of one elbow, which must have been rather tiring, and continually pulled at a lock of hair in the middle of his beard. “You already look much better,” said K.’s uncle, “now that that witch has gone outside.” He interrupted himself, whispered, “I bet you she’s listening!” and sprang over to the door. But behind the door was no-one, K.’s uncle came back not disappointed, as her not listening seemed to him worse than if she had been, but probably somewhat embittered. “You’re mistaken about her,” said the lawyer, but did nothing more to defend her; perhaps that was his way of indicating that she did not need defending. But in a tone that was much more committed he went on, “As far as your nephew’s affairs are concerned, this will be an extremely difficult undertaking and I’d count myself lucky if my strength lasted out long enough for it; I’m greatly afraid it won’t do, but anyway I don’t want to leave anything untried; if I don’t last out you can always get somebody else. To be honest, this matters interests me too much, and I can’t bring myself to give up the chance of taking some part in it. If my heart does totally give out then at least it will have found a worthy affair to fail in.” K. believed he understood not a word of this entire speech, he looked at his uncle for an explanation but his uncle sat on the bedside table with the candle in his hand, a medicine bottle had rolled off the table onto the floor, he nodded to everything the lawyer said, agreed to everything, and now and then looked at K. urging him to show the same compliance. Maybe K.’s uncle had already told the lawyer about the trial. But that was impossible, everything that had happened so far spoke against it. So he said, “I don’t understand . . .” “Well, maybe I’ve misunderstood what you’ve been saying,” said the lawyer, just as astonished and embarrassed as K. “Perhaps I’ve been going too fast. What was it you wanted to speak to me about? I thought it was to do with your trial.” “Of course it is,” said K.’s uncle, who then asked K., “So what is it you want?” “Yes, but how is it that you know anything about me and my case?” asked K. “Oh, I see,” said the lawyer with a smile. “I am a lawyer, I move in court circles, people talk about various different cases and the more interesting ones stay in your mind, especially when they concern the nephew of a friend. There’s nothing very remarkable about that.” “What is it you want, then?” asked K.’s uncle once more, “You seem so uneasy about it” “You move in this court’s circles?” asked K. “Yes,” said the lawyer. “You’re asking questions like a child,” said K.’s uncle. “What circles should I move in, then, if not with members of my own discipline?” the lawyer added. It sounded so indisputable that K. gave no answer at all. “But you work in the High Court, not that court in the attic,” he had wanted to say but could not bring himself to actually utter it. “You have to realise,” the lawyer continued, in a tone as if he were explaining something obvious, unnecessary and incidental, “you have to realise that I also derive great advantage for my clients from mixing with those people, and do so in many different ways, it’s not something you can keep talking about all the time. I’m at a bit of a disadvantage now, of course, because of my illness, but I still get visits from some good friends of mine at the court and I learn one or two things. It might even be that I learn more than many of those who are in the best of health and spend all day in court. And I’m receiving a very welcome visit right now, for instance.” And he pointed into a dark corner of the room. “Where?” asked K., almost uncouth in his surprise. He looked round uneasily; the little candle gave off far too little light to reach as far as the wall opposite. And then, something did indeed begin to move there in the corner. In the light of the candle held up by K.’s uncle an elderly gentleman could be seen sitting beside a small table. He had been sitting there for so long without being noticed that he could hardly have been breathing. Now he stood up with a great deal of fuss, clearly unhappy that attention had been drawn to him. It was as if, by flapping his hands about like short wings, he hoped to deflect any introductions and greetings, as if he wanted on no account to disturb the others by his presence and seemed to be exhorting them to leave him back in the dark and forget about his being there. That, however, was something that could no longer be granted him. “You took us by surprise, you see,” said the lawyer in explanation, cheerfully indicating to the gentleman that he should come closer, which, slowly, hesitatingly, looking all around him, but with a certain dignity, he did. “The office director—oh, yes, forgive me, I haven’t introduced you—this is my friend Albert K., this is his nephew, the chief clerk Josef K., and this is the office director—so, the office director was kind enough to pay me a visit. It’s only possible to appreciate just how valuable a visit like this is if you’ve been let into
the secret of what a pile of work the office director has heaped over him. Well, he came anyway, we were having a peaceful chat, as far as I was able when I’m so weak, and although we hadn’t told Leni she mustn’t let anyone in as we weren’t expecting anyone, we still would rather have remained alone, but then along came you, Albert, thumping your fists on the door, the office director moved over into the corner pulling his table and chair with him, but now it turns out we might have, that is, if that’s what you wish, we might have something to discuss with each other and it would be good if we can all come back together again. —Office director..., “he said with his head on one side, pointing with a humble smile to an armchair near the bed. “I’m afraid I’ll only be able to stay a few minutes more,” smiled the office director as he spread himself out in the armchair and looked at the clock. “Business calls. But I wouldn’t want to miss the chance of meeting a friend of my friend.” He inclined his head slightly toward K.’s uncle, who seemed very happy with his new acquaintance, but he was not the sort of person to express his feelings of deference and responded to the office director’s words with embarrassed, but loud, laughter. A horrible sight! K. was able to quietly watch everything as nobody paid any attention to him, the office director took over as leader of the conversation as seemed to be his habit once he had been called forward. the lawyer listened attentively with his hand to his ear, his initial weakness having perhaps only had the function of driving away his new visitors, K.’s uncle served as candle-bearer—balancing the candle on his thigh while the office director frequently glanced nervously at it—and was soon free of his embarrassment and was quickly enchanted not only by the office director’s speaking manner but also by the gentle, waving hand-movements with which he accompanied it. K., leaning against the bed-post, was totally ignored by the office director, perhaps deliberately, and served the old man only as audience. And besides, he had hardly any idea what the conversation was about and his thoughts soon turned to the care assistant and the ill treatment she had suffered from his uncle. Soon after, he began to wonder whether he had not seen the office director somewhere before, perhaps among the people who were at his first hearing. He may have been mistaken, but thought the office director might well have been among the old gentlemen with the thin beards in the first row.

There was then a noise that everyone heard from the hallway as if something of porcelain were being broken. “I’ll go and see what’s happened,” said K., who slowly left the room as if giving the others the chance to stop him. He had hardly stepped into the hallway, finding his bearings in the darkness with his hand still firmly holding the door, when another small hand, much smaller than K.’s own, placed itself on his and gently shut the door. It was the carer who had been waiting there. “Nothing has happened,” she whispered to him, “I just threw a plate against the wall to get you out of there.” “I was thinking about you, as well,” replied K. uneasily. “So much the better,” said the carer. “Come with me”. A few steps along, they came to a frosted glass door which the carer opened for him. “Come in here,” she said. It was clearly the lawyer’s office, fitted out with old, heavy furniture, as far as could be seen in the moonlight which now illuminated just a small, rectangular section of the floor by each of the three big windows. “This way,” said the carer, pointing to a dark trunk with a carved, wooden backrest. When he had sat down, K. continued to look round the room, it was a large room with a high ceiling, the clients of this lawyer for the poor must have felt quite lost in it. K. thought he could see the little steps with which visitors would approach the massive desk. But then he forgot about all of this and had eyes only for the carer who sat very close beside him, almost pressing him against the armrest. “I did think,” she said “you would come out here to me by yourself with me having to call you first. It was odd. First you stare at me as soon as you come in, and then you keep me waiting. And you ought to call me Leni too,” she added quickly and suddenly, as if no moment of this conversation should be lost. “Gladly,” said K. “But as for its being odd, Leni, that’s easy to explain. Firstly, I had to listen to what the old men were saying and couldn’t leave without a good reason, but secondly I’m not a bold person, if anything I’m quite shy, and you, Leni, you didn’t really look like you could be won over in one stroke, either.” “That’s not it,” said Leni, laying one arm on the armrest and looking at K., “you didn’t like me, and I don’t suppose you like me now, either.” “Liking wouldn’t be very much,” said K., evasively. “Oh!” she exclaimed with a smile, thus making use of K.’s comment to gain an advantage over him. So K. remained silent for a while. By now, he had become used to the darkness in the room and was able to make out various fixtures and fittings. He was especially impressed by a large picture hanging to the right of the door, he leant forward in order to see it better. It depicted a man wearing a judge’s robes; he was sitting on a lofty throne gilded in a way that shone forth from the picture. The odd thing about the picture was that this judge was not sitting there in dignified calm but had his left arm pressed against the back and armrest, his right arm, however, was completely free and only grasped the armrest with his hand, as if about to jump up any moment in vigorous outrage and make some decisive comment or even to pass sentence. The accused was probably meant to be imagined at the foot of the steps, the top one of which could be seen in the picture, covered with a yellow car-
pet. “That might be my judge,” said K., pointing to the picture with one finger. “I know him,” said Leni looking up at the picture, “he comes here quite often. That picture is from when he was young, but he can never have looked anything like it, as he’s tiny, minute almost. But despite that, he had himself made to look bigger in the picture as he’s madly vain, just like everyone round here. But even I’m vain and that makes me very unhappy that you don’t like me.” K. replied to that last comment merely by embracing Leni and drawing her towards him, she lay her head quietly on his shoulder. To the rest of it, though, he said, “What rank is he?” “He’s an examining judge,” she said, taking hold of the hand with which K. held her and playing with his fingers. “Just an examining judge once again,” said K. in disappointment, “the senior officials keep themselves hidden. But here he is sitting on a throne.” “That’s all just made up,” said Leni with her face bent over K.’s hand, “really he’s sitting on a kitchen chair with an old horse blanket folded over it. But do you have to be always thinking about your trial?” she added slowly. “No, not at all,” said K., “I probably even think too little about it.” “That’s not the mistake you’re making,” said Leni, “you’re too unyielding, that’s what I’ve heard.” “Who said that?” asked K., he felt her body against his chest and looked down on her rich, dark, tightly-bound hair. “I’d be saying too much if I told you that,” answered Leni. “Please don’t ask for names, but do stop making these mistakes of yours, stop being so unyielding, there’s nothing you can do to defend yourself from this court, you have to confess. So confess to them as soon as you get the chance. It’s only then that they give you the chance to get away, not till then. Only, without help from outside even that’s impossible, but you needn’t worry about getting this help as I want to help you myself.” “You understand a lot about this court and what sort of tricks are needed,” said K. as he lifted her, since she was pressing in much too close to him, onto his lap. “That’s alright, then,” she said, and made herself comfortable on his lap by smoothing out her skirt and adjusting her blouse. Then she hung both her arms around his neck, leant back and took a long look at him. “And what if I don’t confess, could you not feel. “What a freak of nature,” said K., and when he had to show him, so she led his hand to it so that he could see. And then, briefly, he briefly kissed them and let go. “Oh!” she immediately exclaimed, “you kissed me!” Hurriedly, and with her mouth open, she clambered up K.’s lap with her knees. He was almost aghast as he looked up at her, now that she was so close to him there was a bitter, irritating smell from her, like pepper, she grasped his head, leant out over him, and bit and kissed his neck, even biting into his hair. “I’ve taken her place!” she exclaimed from above.
time to time. “Just look, now you’ve taken me instead of her!” Just then, her knee slipped out and, with a little cry, she nearly fell down onto the carpet. K. tried to hold her by putting his arms around her and was pulled down with her. “Now you’re mine,” she said. Her last words to him as he left were, “Here’s the key to the door, come whenever you want”, and she planted an undirected kiss on his back. When he stepped out the front door there was a light rain falling, he was about to go to the middle of the street to see if he could still glimpse Leni at the window when K.’s uncle leapt out of a car that K., thinking of other things, had not seen waiting outside the building. He took hold of K. by both arms and shoved him against the door as if he wanted to nail him to it. “Young man,” he shouted, “how could you do a thing like that?! Things were going well with this business of yours, now you’ve caused it terrible damage. You slope of with some dirty, little thing who, moreover, is obviously the lawyer’s beloved, and stay away for hours. You don’t even try to find an excuse, don’t try to hide anything, no, you’re quite open about it, you run off with her and stay there. And meanwhile we’re sitting there, your uncle who’s going to such effort for you, the lawyer who needs to be won over to your side, and above all the office director, a very important gentleman who is in direct command of your affair in its present stage. We wanted to discuss how best to help you, I had to handle the lawyer very carefully, he had to handle the office director carefully, and you had most reason of all to at least give me some support. Instead of which you stay away. Eventually we couldn’t keep up the pretence any longer, but these are polite and highly capable men, they didn’t say anything about it so as to spare my feelings but longer, but these are polite and highly capable men, they

Chapter 7: Lawyer—Manufacturer—Painter

One winter morning—snow was falling in the dull light outside—K. was sitting in his office, already extremely tired despite the early hour. He had told the servitor he was engaged in a major piece of work and none of the junior staff should be allowed in to see him, so he would not be disturbed by them at least. But instead of working he turned round in his chair, slowly moved various items around his desk, but then, without being aware of it, he lay his arm stretched out on the desk top and sat there immobile with his head sunk down on his chest.

He was no longer able to get the thought of the trial out of his head. He had often wondered whether it might not be a good idea to work out a written defence and hand it in to the court. It would contain a short description of his life and explain why he had acted the way he had at each event that was in any way important, whether he now considered he had acted well or ill, and his reasons for each. There was no doubt of the advantages a written defence of this sort would have over relying on the lawyer, who was anyway not without his shortcomings. K. had no idea what actions the lawyer was taking; it was certainly not a lot, it was more than a month since the lawyer had summoned him, and none of the previous discussions had given K. the impression that this man would be able to do much for him. Most importantly, he had asked him hardly any questions. And there were so many questions here to be asked. Asking questions were the most important thing. K. had the feeling that he would be able to ask all the questions needed here himself. The lawyer, in contrast, did not ask questions but did all the talking himself or sat silently facing him, leant forward slightly over the desk, probably because he was hard of hearing, pulled on a strand of hair in the middle of his beard and looked down at the carpet, perhaps at the very spot where K. had lain with Leni. Now and then he would give K. some vague warning of the sort you give to children. His speeches were as pointless as they were boring, and K. decided that when the final bill came he would pay not a penny for them. Once the lawyer thought he had humiliated K. sufficiently, he usually started something that would raise his spirits again. He had already, he would then say, won many such cases, partly or in whole, cases which may not really have been as difficult as this one but which, on the face of it, had even less hope of success. He had a list of these cases here in the drawer—here he would tap on one or other of the drawers in his desk—but could, unfortunately, not show them to K. as they dealt with official secrets. Nonetheless, the great experience he had acquired through all these cases would, of course, be of benefit to
K. He had, of course, begun work straight away and was nearly ready to submit the first documents. They would be very important because the first impression made by the defence will often determine the whole course of the proceedings. Unfortunately, though, he would still have to make it clear to K. that the first documents submitted are sometimes not even read by the court. They simply put them with the other documents and point out that, for the time being, questioning and observing the accused are much more important than anything written. If the applicant becomes insistent, then they add that before they come to any decision, as soon as all the material has been brought together, with due regard, of course, to all the documents, then these first documents to have been submitted will also be checked over. But unfortunately, even this is not usually true, the first documents submitted are usually mislaid or lost completely, and even if they do keep them right to the end they are hardly read, although the lawyer only knew about this from rumour. This is all very regrettable, but not entirely without its justifications. But K. should not forget that the trial would not be public, if the court deems it necessary it can be made public but there is no law that says it has to be. As a result, the accused and his defence don’t have access even to the court records, and especially not to the indictment, and that means we generally don’t know—or at least not precisely—what the first documents need to be about, which means that if they do contain anything of relevance to the case it’s only by a lucky coincidence. If anything about the individual charges and the reasons for them comes out clearly or can be guessed at while the accused is being questioned, then it’s possible to work out and submit documents that really direct the issue and present proof, but not before. Conditions like this, of course, place the defence in a very unfavourable and difficult position. But that is what they intend. In fact, defence is not really allowed under the law, it’s only tolerated, and there is even some dispute about whether the relevant parts of the law imply even that. So strictly speaking, there is no such thing as a counsel acknowledged by the court, and anyone who comes before this court as counsel is basically no more than a barrack room lawyer. The effect of all this, of course, is to remove the dignity of the whole procedure, the next time K. is in the court offices he might like to have a look in at the lawyers’ room, just so that he’s seen it. He might well be quite shocked by the people he sees assembled there. The room they’ve been allocated, with its narrow space and low ceiling, will be enough to show what contempt the court has for these people. The only light in the room comes through a little window that is so high up that, if you want to look out of it, you first have to get one of your colleagues to support you on his back, and even then the smoke from the chimney just in front of it will go up your nose and make your face black. In the floor of this room—to give yet another example of the conditions there—there is a hole that’s been there for more than a year, it’s not so big that a man could fall through, but it is big enough for your foot to disappear through it. The lawyers’ room is on the second floor of the attic; if your foot does go through it will hang down into the first floor of the attic underneath it, and right in the corridor where the litigants are waiting. It’s no exaggeration when lawyers say that conditions like that are a disgrace. Complaints to the management don’t have the slightest effect, but the lawyers are strictly forbidden to alter anything in the room at their own expense. But even treating the lawyers in this way has its reasons. They want, as far as possible, to prevent any kind of defence, everything should be made the responsibility of the accused. No a bad point of view, basically, but nothing could be more mistaken than to think from that that lawyers are not necessary for the accused in this court. On the contrary, there is no court where they are less needed than here. This is because proceedings are generally kept secret not only from the public but also from the accused. Only as far as that is possible, of course, but it is possible to a very large extent. And the accused doesn’t get to see the court records either, and it’s very difficult to infer what’s in the court records from what’s been said during questioning based on them, especially for the accused who is in a difficult situation and is faced with every possible worry to distract him. This is when the defence begins. Counsel for the defence are not normally allowed to be present while the accused is being questioned, so afterwards, and if possible still at the door of the interview room, he has to learn what he can about it from him and extract whatever he can that might be of use, even though what the accused has to report is often very confused. But that is not the most important thing, as there’s really not a lot that can be learned in this way, although in this, as with anything else, a competent man will learn more than another. Nonetheless, the most important thing is the lawyer’s personal connections, that’s where the real value of taking counsel lies. Now K. will most likely have already learned from his own experience that, among its very lowest orders, the court organisation does have its imperfections, the court is strictly closed to the public, but staff who forget their duty or who take bribes do, to some extent, show where the gaps are. This is where most lawyers will push their way in, this is where bribes are paid and information extracted, there have even, in earlier times at least, been incidents where documents have been stolen. There’s no denying that some surprisingly favourable results have been attained for the accused in this way, for a limited
time, and these petty advocates then strut to and fro on
the basis of them and attract new clients, but for the fur-
ther course of the proceedings it signifies either nothing
or nothing good. The only things of real value are honest
personal contacts, contacts with higher officials, albeit
higher officials of the lower grades, you understand. That
is the only way the progress of the trial can be influenced,
hardly noticeable at first, it’s true, but from then on it be-
comes more and more visible. There are, of course, not
many lawyers who can do this, and K. has made a very
good choice in this matter. There were probably no more
than one or two who had as many contacts as Dr. Huld,
but they don’t bother with the company of the lawyers’
room and have nothing to do with it. This means they
have all the less contact with the court officials. It is not
at all necessary for Dr. Huld to go to the court, wait in the
ante-rooms for the examining judges to turn up, if they
turn up, and try to achieve something which, according
to the judges’ mood is usually more apparent than real
and most often not even that. No, K. has seen for himself
that the court officials, including some who are quite high
up, come forward without being asked, are glad to give
information which is fully open or at least easy to under-
stand, they discuss the next stages in the proceedings, in
fact in some cases they can be won over and are quite
willing to adopt the other person’s point of view. How-
ever, when this happens, you should never trust them too
far, as however firmly they may have declared this new
point of view in favour of the defendant they might well
go straight back to their offices and write a report for the
court that says just the opposite, and might well be even
harder on the defendant than the original view, the one
they insist they’ve been fully dissuaded from. And, of
course, there’s no way of defending yourself from this,
something said in private is indeed in private and cannot
then be used in public, it’s not something that makes it
easy for the defence to keep those gentlemen’s favour.
On the other hand, it’s also true that the gentlemen don’t
become involved with the defence—which will of course
be done with great expertise—just for philanthropic rea-
sons or in order to be friendly, in some respects it would
be truer to say that they, too, have it allocated to them.
This is where the disadvantages of a court structure that,
right from the start, stipulates that all proceedings take
place in private, come into force. In normal, mediocre
trials its officials have contact with the public, and they’re
very well equipped for it, but here they don’t; normal tri-
als run their course all by themselves, almost, and just
need a nudge here and there; but when they’re faced with
cases that are especially difficult they’re as lost as they
often are with ones that are very simple; they’re forced
to spend all their time, day and night, with their laws, and
so they don’t have the right feel for human relationships,
and that’s a serious shortcoming in cases like this. That’s
when they come for advice to the lawyer, with a servant
behind them carrying the documents which normally are
kept so secret. You could have seen many gentlemen at
this window, gentlemen of whom you would least expect
it, staring out this window in despair on the street below
while the lawyer is at his desk studying the documents
so that he can give them good advice. And at times like
that it’s also possible to see how exceptionally seriously
these gentlemen take their professions and how they are
thrown into great confusion by difficulties which it’s just
not in their natures to overcome. But they’re not in an
easy position, to regard their positions as easy would be
to do them an injustice. The different ranks and hierar-
chies of the court are endless, and even someone who
knows his way around them cannot always tell what’s
going to happen. But even for the junior officials, the
proceedings in the courtrooms are usually kept secret,
so they are hardly able to see how the cases they work
with proceed, court affairs appear in their range of vision
often without their knowing where they come from and
they move on further without their learning where they
go. So civil servants like this are not able to learn the
things you can learn from studying the successive stages
that individual trials go through, the final verdict or the
reasons for it. They’re only allowed to deal with that
part of the trial which the law allocates them, and they
usually know less about the results of their work after
it’s left them than the defence does, even though the de-
fence will usually stay in contact with the accused until
the trial is nearly at its end, so that the court officials
can learn many useful things from the defence. Bear-
ing all this in mind, does it still surprise K. that the of-
ficials are irritated and often express themselves about
the litigants in unflattering ways—which is an experi-
ence shared by everyone. All the officials are irritated,
even when they appear calm. This causes many difficul-
ties for the junior advocates, of course. There is a story,
for instance, that has very much the ring of truth about
it. It goes like this: One of the older officials, a good
and peaceful man, was dealing with a difficult matter for
the court which had become very confused, especially
thanks to the contributions from the lawyers. He had
been studying it for a day and a night without a break—
as these officials are indeed hard working, no-one works
as hard as they do. When it was nearly morning, and he
had been working for twenty-four hours with probably
very little result, he went to the front entrance, waited
there in ambush, and every time a lawyer tried to enter
the building he would throw him down the steps. The
lawyers gathered together down in front of the steps and
discussed with each other what they should do; on the
one hand they had actually no right to be allowed into

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the building so that there was hardly anything that they
could legally do to the official and, as I’ve already men-
tioned, they would have to be careful not to set all the
officials against them. On the other hand, any day not
spent in court is a day lost for them and it was a mat-
ter of some importance to force their way inside. In the
end, they agreed that they would try to tire the old man
out. One lawyer after another was sent out to run up
the steps and let himself be thrown down again, offering
what resistance he could as long as it was passive resis-
tance, and his colleagues would catch him at the bottom
of the steps. That went on for about an hour until the
old gentleman, who was already exhausted from work-
ing all night, was very tired and went back to his office.
Those who were at the bottom of the steps could not
believe it at first, so they sent somebody out to go and look
behind the door to see if there really was no-one there,
and only then did they all gather together and probably
didn’t even dare to complain, as it’s far from being the
lawyers’ job to introduce any improvements in the court
system, or even to want to. Even the most junior lawyer
can understand the relationship there to some extent, but
one significant point is that almost every defendant, even
very simple people, begins to think of suggestions for
improving the court as soon as his proceedings have be-
gun, many of them often even spend time and energy on
the matter that could be spent far better elsewhere. The
only right thing to do is to learn how to deal with the sit-
uation as it is. Even if it were possible to improve any
detail of it—which is anyway no more than superstitious
nonsense—the best that they could achieve, although do-
ing themselves incalculable harm in the process, is that
they will have attracted the special attention of the offi-
cials for any case that comes up in the future, and the
officials are always ready to seek revenge. Never attract
attention to yourself! Stay calm, however much it goes
against your character! Try to gain some insight into the
size of the court organism and how, to some extent, it re-
mains in a state of suspension, and that even if you alter
something in one place you’ll draw the ground out from
under your feet and might fall, whereas if an enormous
organism like the court is disrupted in any one place it
finds it easy to provide a substitute for itself somewhere
else. Everything is connected with everything else and
will continue without any change or else, which is quite
probable, even more closed, more attentive, more strict,
more malevolent. So it’s best to leave the work to the
lawyers and not to keep disturbing them. It doesn’t do
much good to make accusations, especially if you can’t
make it clear what they’re based on and their full signif-
icance, but it must be said that K. caused a great deal of
harm to his own case by his behaviour towards the office
director, he was a very influential man but now he might
as well be struck off the list of those who might do any-
thing for K. If the trial is mentioned, even just in passing,
it’s quite obvious that he’s ignoring it. These officials
are in many ways just like children. Often, something
quite harmless—although K.’s behaviour could unfortu-
nately not be called harmless—will leave them feeling
so offended that they will even stop talking with good
friends of theirs, they turn away when they see them
and do everything they can to oppose them. But then,
with no particular reason, surprisingly enough, some lit-
tle joke that was only ever attempted because everything
seemed so hopeless will make them laugh and they’ll be
reconciled. It’s both difficult and hard at the same time
to deal with them, and there’s hardly any reason for it.
It’s sometimes quite astonishing that a single, average
life is enough to encompass so much that it’s at all pos-
sible ever to have any success in one’s work here. On
the other hand, there are also dark moments, such as ev-
eryone has, when you think you’ve achieved nothing at
all, when it seems that the only trials to come to a good
end are those that were determined to have a good end
from the start and would do so without any help, while
all the others are lost despite all the running to and fro,
all the effort, all the little, apparent successes that gave
such joy. Then you no longer feel very sure of anything
and, if asked about a trial that was doing well by its own
nature but which was turned for the worse because you
assisted in it, would not even dare deny that. And even
that is a kind of self-confidence, but then it’s the only
one that’s left. Lawyers are especially vulnerable to fits
depression of that sort—and they are no more than fits
depression of course—when a case is suddenly taken
out of their hands after they’ve been conducting it satis-
factorily for some time. That’s probably the worst that
can happen to a lawyer. It’s not that the accused takes
the case away from him, that hardly ever happens, once
a defendant has taken on a certain lawyer he has to stay
with him whatever happens. How could he ever carry on
by himself after he’s taken on help from a lawyer? No,
that just doesn’t happen, but what does sometimes hap-
pen is that the trial takes on a course where the lawyer
may not go along with it. Client and trial are both simply
taken away from the lawyer; and then even contact with
the court officials won’t help, however good they are, as
they don’t know anything themselves. The trial will have
entered a stage where no more help can be given, where
it’s being processed in courts to which no-one has any
access, where the defendant cannot even be contacted by
his lawyer. You come home one day and find all the doc-
uments you’ve submitted, which you’ve worked hard to
create and which you had the best hopes for, lying on
the desk, they’ve been sent back as they can’t be carried
through to the next stage in the trial, they’re just worth-
less scraps of paper. It doesn’t meant that the case has been lost, not at all, or at least there is no decisive reason for supposing so, it’s just that you don’t know anything more about the case and won’t be told anything of what’s happening. Well, cases like that are the exceptions, I’m glad to say, and even if K.’s trial is one of them, it’s still, for the time being, a long way off. But there was still plenty of opportunity for lawyers to get to work, and K. could be sure they would be made use of. As he had said, the time for submitting documents was still in the future and there was no rush to prepare them, it was much more important to start the initial discussions with the appropriate officials, and they had already taken place. With varying degrees of success, it must be said. It was much better not to give away any details before their time, as in that way K. could only be influenced unfavourably and his hopes might be raised or he might be made too anxious, better just to say that some individuals have spoken very favourably and shown themselves very willing to help, although others have spoken less favourably, but even they have not in any way refused to help. So all in all, the results are very encouraging, only you should certainly not draw any particular conclusions as all preliminary proceedings begin in the same way and it was only the way they developed further that would show what the value of these preliminary proceedings has been. Anyway, nothing has been lost yet, and if we can succeed in getting the office director, despite everything, on our side—and several actions have been undertaken to this end—then everything is a clean wound, as a surgeon would say, and we can wait for the results with some comfort.

When he started talking on in this way the lawyer was quite tireless. He went through it all again every time K. went to see him. There was always some progress, but he could never be told what sort of progress it was. The first set of documents to be submitted were being worked on but still not ready, which usually turned out to be a great advantage the next time K. went to see him as the earlier occasion would have been a very bad time to put them in, which they could not then have known. If K., stupefied from all this talking, ever pointed out that even considering all these difficulties progress was very slow, the lawyer would object that progress was not slow at all, but that they might have progressed far further if K. had come to him at the right time. But he had come to him late and that lateness would bring still further difficulties, and not only where time was concerned. The only welcome interruption during these visits was always when Leni contrived to bring the lawyer his tea while K. was there. Then she would stand behind K.—pretending to watch the lawyer as he bent greedily over his cup, poured the tea in and drank—and secretly let K. hold her hand. There was always complete silence. The lawyer drank. K. squeezed Leni’s hand and Leni would sometimes dare to gently stroke K.’s hair. “Still here, are you?” the lawyer would ask when he was ready. “I wanted to take the dishes away,” said Leni, they would give each other’s hands a final squeeze, the lawyer would wipe his mouth and then start talking at K. again with renewed energy.

Was the lawyer trying to comfort K. or to confuse him? K. could not tell, but it seemed clear to him that his defence was not in good hands. Maybe everything the lawyer said was quite right, even though he obviously wanted to make himself as conspicuous as possible and probably had never even taken on a case as important as he said K.’s was. But it was still suspicious how he continually mentioned his personal contacts with the civil servants. Were they to be exploited solely for K.’s benefit? The lawyer never forgot to mention that they were dealing only with junior officials, which meant officials who were dependent on others, and the direction taken in each trial could be important for their own furtherment. Could it be that they were making use of the lawyer to turn trials in a certain direction, which would, of course, always be at the cost of the defendant? It certainly did not mean that they would do that in every trial, that was not likely at all, and there were probably also trials where they gave the lawyer advantages and all the room he needed to turn it in the direction he wanted, as it would also be to their advantage to keep his reputation intact. If that really was their relationship, how would they direct K.’s trial which, as the lawyer had explained, was especially difficult and therefore important enough to attract great attention from the very first time it came to court? There could not be much doubt about what they would do. The first signs of it could already be seen in the fact that the first documents still had not been submitted even though the trial had already lasted several months, and that, according to the lawyer, everything was still in its initial stages, which was very effective, of course, in making the defendant passive and keeping him helpless. Then he could be suddenly surprised with the verdict, or at least with a notification that the hearing had not decided in his favour and the matter would be passed on to a higher office.

It was essential that K. take a hand in it himself. On winter’s mornings such as this, when he was very tired and everything dragged itself lethargically through his head, this belief of his seemed irrefutable. He no longer felt the contempt for the trial that he had had earlier. If he had been alone in the world it would have been easy for him to ignore it, although it was also certain that, in that case, the trial would never have arisen in the first place. But now, his uncle had already dragged him to
see the lawyer, he had to take account of his family; his job was no longer totally separate from the progress of the trial, he himself had carelessly—with a certain, inexplicable complacency—mentioned it to acquaintances and others had learned about it in ways he did not know, his relationship with Miss Brüstner seemed to be in trouble because of it. In short, he no longer had any choice whether he would accept the trial or turn it down, he was in the middle of it and had to defend himself. If he was tired, then that was bad.

But there was no reason to worry too much before he needed to. He had been capable of working himself up to his high position in the bank in a relatively short time and to retain it with respect from everyone, now he simply had to apply some of the talents that had made that possible for him to the trial, and there was no doubt that it had to turn out well. The most important thing, if something was to be achieved, was to reject in advance any idea that he might be in any way guilty. There was no guilt. The trial was nothing but a big piece of business, just like he had already concluded to the benefit of the bank many times, a piece of business that concealed many lurking dangers waiting in ambush for him, as they usually did, and these dangers would need to be defended against. If that was to be achieved then he must not entertain any idea of guilt, whatever he did, he would need to look after his own interests as closely as he could. Seen in this way, there was no choice but to take his representation away from the lawyer very soon, at best that very evening. The lawyer had told him, as he talked to him, that that was something unheard of and would probably do him a great deal of harm, but K. could not tolerate any impediment to his efforts where his trial was concerned, and these impediments were probably caused by the lawyer himself. But once he had shaken off the lawyer the documents would need to be submitted straight away and, if possible, he would need to see to it that they were being dealt with every day. It would of course not be enough, if that was to be done, for K. to sit in the corridor with his hat under the bench like the others. Day after day, he himself, or one of the women or somebody else on his behalf, would have to run after the officials and force them to sit at their desks and study K.’s documents instead of looking out on the corridor through the grating. There could be no let-up in these efforts, everything would need to be organised and supervised, it was about time that the court came up against a defendant who knew how to defend and make use of his rights.

But when K. had the confidence to try and do all this the difficulty of composing the documents was too much for him. Earlier, just a week or so before, he could only have felt shame at the thought of being made to write out such documents himself; it had never entered his head that the task could also be difficult. He remembered one morning when, already piled up with work, he suddenly shoved everything to one side and took a pad of paper on which he sketched out some of his thoughts on how documents of this sort should proceed. Perhaps he would offer them to that slow-witted lawyer, but just then the door of the manager’s office opened and the deputy-director entered the room with a loud laugh. K. was very embarrassed, although the deputy-director, of course, was not laughing at K.’s documents, which he knew nothing about, but at a joke he had just heard about the stock-exchange, a joke which needed an illustration if it was to be understood, and now the deputy-director leant over K.’s desk, took his pencil from his hand, and drew the illustration on the writing pad that K. had intended for his ideas about his case.

K. now had no more thoughts of shame, the documents had to be prepared and submitted. If, as was very likely, he could find no time to do it in the office he would have to do it at home at night. If the nights weren’t enough he would have to take a holiday. Above he could not stop half way, that was nonsense not only in business but always and everywhere. Needless to say, the documents would mean an almost endless amount of work. It was easy to come to the belief, not only for those of an anxious disposition, that it was impossible ever to finish it. This was not because of laziness or deceit, which were the only things that might have hindered the lawyer in preparing it, but because he did not know what the charge was or even what consequences it might bring, so that he had to remember every tiny action and event from the whole of his life, looking at them from all sides and checking and reconsidering them. It was also a very disheartening job. It would have been more suitable as a way of passing the long days after he had retired and become senile. But now, just when K. needed to apply all his thoughts to his work, when he was still rising and already posed a threat to the deputy-director, when every hour passed so quickly and he wanted to enjoy the brief evenings and nights as a young man, this was the time he had to start working out these documents. Once more, he began to feel resentment. Almost involuntarily, only to put an end to it, his finger felt for the button of the electric bell in the ante-room. As he pressed it he glanced up to the clock. It was eleven o’clock, two hours, he had spent a great deal of his costly time just dreaming and his wits were, of course, even more dulled than they had been before. But the time had, nonetheless, not been wasted, he had come to some decisions that could be of value. As well as various pieces of mail, the servitors brought two visiting cards from gentlemen who had already been waiting for K. for some time. They were actually very important clients of the bank who should not really have
been kept waiting under any circumstances. Why had they come at such an awkward time, and why, the gentlemen on the other side of the closed door seemed to be asking, was the industrious K. using up the best business time for his private affairs? Tired from what had gone before, and tired in anticipation of what was to follow, K. stood up to receive the first of them.

He was a short, jolly man, a manufacturer who K. knew well. He apologised for disturbing K. at some important work, and K., for his part, apologised for having kept the manufacturer waiting for so long. But even this apology was spoken in such a mechanical way and with such false intonation that the manufacturer would certainly have noticed if he had not been fully preoccupied with his business affairs. Instead, he hurriedly pulled calculations and tables out from all his pockets, spread them out in front of K., explained several items, corrected a little mistake in the arithmetic that he noticed as he quickly glanced over it all, and reminded K. of a similar piece of business he’d concluded with him about a year before, mentioning in passing that this time there was another bank spending great effort to get his business, and finally stopped speaking in order to learn K.’s opinion on the matter. And K. had indeed, at first, been closely following what the manufacturer was saying, he too was aware of how important the deal was, but unfortunately it did not last, he soon stopped listening, nodded at each of the manufacturer’s louder exclamations for a short while, but eventually he stopped doing even that and did no more than stare at the bald head bent over the papers, asking himself when the manufacturer would finally realise that everything he was saying was useless. When he did stop talking, K. really thought at first that this was so that he would have the chance to confess that he was incapable of listening. Instead, seeing the anticipation on the manufacturer’s face, obviously ready to counter any objections made, he was sorry to realise that the business discussion had to be continued. So he bent his head as if he’d been given an order and began slowly to move his pencil over the papers, now and then he would stop and stare at one of the figures. The manufacturer thought there must be some objection, perhaps his figures weren’t really sound, perhaps they weren’t the decisive issue, whatever he thought, the manufacturer covered the papers with his hand and began once again, moving very close to K., to explain what the deal was all about. “It is difficult,” said K., pursing his lips. The only thing that could offer him any guidance were the papers, and the manufacturer had covered them from his view, so he just sank back against the arm of the chair. Even when the door of the manager’s office opened and revealed not very clearly, as if through a veil, the deputy director, he did no more than look up weakly. K. thought no more about the matter, he merely watched the immediate effect of the deputy director’s appearance and, for him, the effect was very pleasing; the manufacturer immediately jumped up from his seat and hurried over to meet the deputy director, although K. would have liked to make him ten times livelier as he feared the deputy director might disappear again. He need not have worried, the two gentlemen met each other, shook each other’s hand and went together over to K.’s desk. The manufacturer said he was sorry to find the chief clerk so little inclined to do business, pointing to K. who, under the view of the deputy director, had bent back down over the papers. As the two men leant over the desk and the manufacturer made some effort to gain and keep the deputy director’s attention, K. felt as if they were much bigger than they really were and that their negotiations were about him. Carefully and slowly turning his eyes upwards, he tried to learn what was taking place above him, took one of the papers from his desk without looking to see what it was, lay it on the flat of his hand and raised it slowly up as he rose up to the level of the two men himself. He had no particular plan in mind as he did this, but merely felt this was how he would act if only he had finished preparing that great document that was to remove his burden entirely. The deputy director had been paying all his attention to the conversation and did no more than glance at the paper, he did not read what was written on it at all as what was important for the chief clerk was not important for him, he took it from K.’s hand saying, “Thank you, I’m already familiar with everything”, and lay it calmly back on the desk. K. gave him a bitter, sideways look. But the deputy director did not notice this at all, or if he did notice it it only raised his spirits, he frequently laughed out loud, one time he clearly embarrassed the manufacturer when he raised an objection in a witty way but drew him immediately back out of his embarrassment by commenting adversely on himself, and finally invited him into his office where they could bring the matter to its conclusion. “It’s a very important matter,” said the manufacturer. “I understand that completely. And I’m sure the chief clerk . . .”—even as he said this he was actually speaking only to the manufacturer—“will be very glad to have us take it off his hands. This is something that needs calm consideration. But he seems to be overburdened today, there are even some people in the room outside who’ve been waiting there for hours for him.” K. still had enough control of himself to turn away from the deputy director and direct his friendly, albeit stiff, smile only at the manufacturer, he made no other retaliation, bent down slightly and supported himself with both hands on his desk like a clerk, and watched as the two gentlemen, still talking, took the papers from his desk and disappeared into the manager’s office. In the door-
way, the manufacturer turned and said he wouldn’t make his farewell with K., just yet, he would of course let the chief clerk know about the success of his discussions but he also had a little something to tell him about.

At last, K. was by himself. It did not enter his head to show anyone else into his office and only became vaguely aware of how nice it was that the people outside thought he was still negotiating with the manufacturer and, for this reason, he could not let anyone in to see him, not even the servitor. He went over to the window, sat down on the ledge beside it, held firmly on to the handle and looked down onto the square outside. The snow was still falling, the weather still had not brightened up at all.

He remained a long time sitting in this way, not knowing what it actually was that made him so anxious, only occasionally did he glance, slightly startled, over his shoulder at the door to the outer room where, mistakenly, he thought he’d heard some noise. No-one came, and that made him feel calmer, he went over to the wash stand, rinsed his face with cold water and, his head somewhat clearer, went back to his place by the window. The decision to take his defence into his own hands now seemed more of a burden than he had originally assumed. All the while he had left his defence up to the lawyer his trial had had little basic affect on him, he had observed it from afar as something that was scarcely able to reach him directly, when it suited him he looked to see how things stood but he was also able to draw his head back again whenever he wanted. Now, in contrast, if he was to conduct his defence himself, he would have to devote himself entirely to the court—for the time being, at least—success would mean, later on, his complete and conclusive liberation, but if he was to achieve this he would have to place himself, to start with, in far greater danger than he had been in so far. If he ever felt tempted to doubt this, then his experience with the deputy director and the manufacturer that day would be quite enough to convince him of it. How could he have sat there totally convinced of the need to do his own defence? How would it be later? What would his life be like in the days ahead? Would he find the way through it all to a happy conclusion? Did a carefully worked out defence—and any other sort would have made no sense—did a carefully worked out defence not also mean he would need to shut himself off from everything else as much as he could? Would he survive that? And how was he to succeed in conducting all this at the bank? It involved much more than just submitting some documents that he could probably prepare in a few days’ leave, although it would have been great temerity to ask for time off from the bank just at that time, it was a whole trial and there was no way of seeing how long it might last. This was an enormous difficulty that had suddenly been thrown into K.’s life!

And was he supposed to be doing the bank’s work at a time like this? He looked down at his desk. Was he supposed to let people in to see him and go into negotiations with them at a time like this? While his trial trundled on, while the court officials upstairs in the attic room sat looking at the papers for this trial, should he be worrying about the business of the bank? Did this not seem like a kind of torture, acknowledged by the court, connected with the trial and which followed him around? And is it likely that anyone in the bank, when judging his work, would take any account of his peculiar situation? No-one and never. There were those who knew about his trial, although it was not quite clear who knew about it or how much. But he hoped rumours had not reached as far as the deputy director, otherwise he would obviously soon find a way of making use of it to harm K., he would show neither comradeship nor humaneness. And what about the director? It was true that he was well disposed towards K., and as soon as he heard about the trial he would probably try to do everything he could to make it easier for him, but he would certainly not devote himself to it. K. at one time had provided the counterbalance to what the deputy director said but the director was now coming more and more under his influence, and the deputy director would also exploit the weakened condition of the director to strengthen his own power. So what could K. hope for? Maybe considerations of this sort weakened his power of resistance, but it was still necessary not to deceive oneself and to see everything as clearly as it could be seen at that moment.

For no particular reason, just to avoiding returning to his desk for a while, he opened the window. It was difficult to open and he had to turn the handle with both his hands. Then, through the whole height and breadth of the window, the mixture of fog and smoke was drawn into the room, filling it with a slight smell of burning. A few flakes of snow were blown in with it. “It’s a horrible autumn,” said the manufacturer, who had come into the room unnoticed after seeing the deputy director and now stood behind K. K. nodded and looked uneasily at the manufacturer’s briefcase, from which he would now probably take the papers and inform K. of the result of his negotiations with the deputy director. However, the manufacturer saw where K. was looking, knocked on his briefcase and without opening it said, “You’ll be wanting to hear how things turned out. I’ve already got the contract in my pocket, almost. He’s a charming man, your deputy director—he’s got his dangers, though.” He laughed as he shook K.’s hand and wanted to make him laugh with him. But to K., it once more seemed suspicious that the manufacturer did not want to show him the papers and saw nothing about his comments to laugh
“Chief clerk,” said the manufacturer, “I expect the weather’s been affecting your mood, has it? You’re looking so worried today.” “Yes,” said K., raising his hand and holding the temple of his head, “headaches, worries in the family.” “Quite right,” said the manufacturer, who was always in a hurry and could never listen to anyone for very long, “everyone has his cross to bear.” K. had unconsciously made a step towards the door as if wanting to show the manufacturer out, but the manufacturer said, “Chief clerk, there’s something else I’d like to mention to you. I’m very sorry if it’s something that’ll be a burden to you today of all days but I’ve been to see you twice already, lately, and each time I forgot all about it. If I delay it any longer it might well lose its point altogether. That would be a pity, as I think what I’ve got to say does have some value.” Before K. had had the time to answer, the manufacturer came up close to him, tapped his knuckle lightly on his chest and said quietly, “You’ve got a trial going on, haven’t you?” K. stepped back and immediately exclaimed, “That’s what the deputy director’s been telling you!” “No, no,” said the manufacturer, “how would the deputy director know about it?” “And what about you?” asked K., already more in control of himself. “I hear things about the court here and there,” said the manufacturer, “and that even applies to what it is that I wanted to tell you about.” “There are so many people who have connections with the court!” said K. with lowered head, and he led the manufacturer over to his desk. They sat down where they had been before, and the manufacturer said, “I’m afraid it’s not very much that I’ve got to tell you about. Only, in matters like this, it’s best not to overlook the tiniest details. Besides, I really want to help you in some way, however modest my help might be. We’ve been good business partners up till now, haven’t we? Well then.” K. wanted to apologise for his behaviour in the conversation earlier that day, but the manufacturer would tolerate no interruption, shoved his briefcase up high in his armpit to show that he was in a hurry, and carried on. “I know about your case through a certain Titorelli. He’s a painter, Titorelli’s just his artistic name, I don’t even know what his real name is. He’s been coming to me in my office for years from time to time, and brings little pictures with him which I buy more or less just for the sake of charity as he’s hardly more than a beggar. And they’re nice pictures, too, moorland landscapes and that sort of thing. We’d both got used to doing business in this way and it always went smoothly. Only, one time these visits became a bit too frequent, I began to tell him off for it, we started talking and I became interested how it was that he could earn a living just by painting, and then I learned to my amazement that his main source of income was painting portraits. ‘I work for the court,’ he said, ‘what court?’ And that’s when he told me about the court. I’m sure you can imagine how amazed I was at being told all this. Ever since then I learn something new about the court every time he comes to visit, and so little by little I get to understand something of how it works. Anyway, Titorelli talks a lot and I often have to push him away, not only because he’s bound to be lying but also, most of all, because a businessman like me who’s already close to breaking point under the weight of his own business worries can’t pay too much attention to other people’s. But all that’s just by the by. Perhaps—this is what I’ve been thinking—perhaps Titorelli might be able to help you in some small way, he knows lots of judges and even if he can’t have much influence himself he can give you some advice about how to get some influential people on your side. And even if this advice doesn’t turn out to make all the difference I still think it’ll be very important once you’ve got it. You’re nearly a lawyer yourself. That’s what I always say, Mr. K. the chief clerk is nearly a lawyer. Oh I’m sure this trial of yours will turn out all right. So do you want to go and see Titorelli, then? If I ask him to he’ll certainly do everything he possibly can. I really do think you ought to go. It needn’t be today, of course, just some time, when you get the chance. And anyway—I want to tell you this too—you don’t actually have to go and see Titorelli, this advice from me doesn’t place you under any obligation at all. No, if you think you can get by without Titorelli it’ll certainly be better to leave him completely out of it. Maybe you’ve already got a clear idea of what you’re doing and Titorelli could upset your plans. No, if that’s the case then of course you shouldn’t go there under any circumstances! And it certainly won’t be easy to take advice from a lad like that. Still, it’s up to you. Here’s the letter of recommendation and here’s the address.”

Disappointed, K. took the letter and put it in his pocket. Even at best, the advantage he might derive from this recommendation was incomparably smaller than the damage that lay in the fact of the manufacturer knowing about his trial, and that the painter was spreading the news about. It was all he could manage to give the manufacturer, who was already on his way to the door, a few words of thanks. “I’ll go there,” he said as he took his leave of the manufacturer at the door, “or, as I’m very busy at present, I’ll write to him, perhaps he would like to come to me in my office some time.” “I was sure you’d find the best solution,” said the manufacturer. “Although I had thought you’d prefer to avoid inviting people like this Titorelli to the bank and talking about the trial here. And it’s not always a good idea to send letters to people like Titorelli, you don’t know what might happen to them. But you’re bound to have thought everything through and you know what you can and can’t do.” K.
noded and accompanied the manufacturer on through the ante-room. But despite seeming calm on the outside he was actually very shocked; he had told the manufacturer he would write to Titorelli only to show him in some way that he valued his recommendations and would consider the opportunity to speak with Titorelli without delay, but if he had thought Titorelli could offer any worthwhile assistance he would not have delayed. But it was only the manufacturer’s comment that made K. realise what dangers that could lead to. Was he really able to rely on his own understanding so little? If it was possible that he might invite a questionable character into the bank with a clear letter, and ask advice from him about his trial, separated from the deputy director by no more than a door, was it not possible or even very likely that there were also other dangers he had failed to see or that he was even running towards? There was never always someone beside him to warn him. And just now, just when he would have to act with all the strength he could muster, now a number of doubts of a sort he had never before known had presented themselves and affected his own vigilance! The difficulties he had been feeling in carrying out his office work; were they now going to affect the trial too? Now, at least, he found himself quite unable to understand how he could have intended to write to Titorelli and invite him into the bank.

He shook his head at the thought of it once more as the servitor came up beside him and drew his attention to the three gentlemen who were waiting on a bench in the ante-room. They had already been waiting to see K. for a long time. Now that the servitor was speaking with K. they had stood up and each of them wanted to make use of the opportunity to see K. before the others. It had been negligent of the bank to let them waste their time here in the waiting room, but none of them wanted to draw attention to this. “Mr. K., . . .” one of them was saying, but K. had told the servitor to fetch his winter coat and said to the three of them, as the servitor helped him to put it on, “Please forgive me, gentlemen, I’m afraid I have no time to see you at present. Please do forgive me but I have some urgent business to settle and have to leave straight away. You’ve already seen yourselves how long I’ve been delayed. Would you be so kind as to come back tomorrow or some time? Or perhaps we could settle your affairs by telephone? Or perhaps you would like to tell me now, briefly, what it’s about and I can then give you a full answer in writing. Whatever, the best thing will be for you to come here again.” The gentlemen now saw that their wait had been totally pointless, and these suggestions of K.’s left them so astounded that they looked at each other without a word. “That’s agreed then, is it?” asked K., who had turned toward the servitor bringing him his hat. Through the open door of K.’s office they could see that the snowfall outside had become much heavier. So K. turned the collar of his coat up and buttoned it up high under his chin. Just then the deputy director came out of the adjoining room, smiled as he saw K. negotiating with the gentlemen in his winter coat, and asked, “Are you about to go out?” “Yes,” said K., standing more upright, “I have to go out on some business.” But the deputy director had already turned towards the gentlemen. “And what about these gentlemen?” he asked. “I think they’ve already been waiting quite a long time.” “We’ve already come to an understanding,” said K. But now the gentlemen could be held back no longer, they surrounded K. and explained that they would not have been waiting for hours if it had not been about something important that had to be discussed now, at length and in private. The deputy director listened to them for a short while, he also looked at K. as he held his hat in his hand cleaning the dust off it here and there, and then he said, “Gentlemen, there is a very simple way to solve this. If you would prefer it, I’ll be very glad to take over these negotiations instead of the chief clerk. Your business does, of course, need to be discussed without delay. We are businessmen like yourselves and know the value of a businessman’s time. Would you like to come this way?” And he opened the door leading to the ante-room of his own office.

The deputy director seemed very good at appropriating everything that K. was now forced to give up! But was K. not giving up more than he absolutely had to? By running off to some unknown painter, with, as he had to admit, very little hope of any vague benefit, his renown was suffering damage that could not be repaired. It would probably be much better to take off his winter coat again and, at the very least, try to win back the two gentlemen who were certainly still waiting in the next room. If K. had not then glimpsed the deputy director in his office, looking for something from his bookshelves as if they were his own, he would probably even have made the attempt. As K., somewhat agitated, approached the door the deputy director called out, “Oh, you’ve still not left!” He turned his face toward him—its many deep folds seemed to show strength rather than age—and immediately began once more to search. “I’m looking for a copy of a contract,” he said, “which this gentleman insists you must have. Could you help me look for it, do you think?” K. made a step forward, but the deputy director said, “thank you, I’ve already found it,” and with a big package of papers, which certainly must have included many more documents than just the copy of the contract, he turned and went back into his own office.

“I can’t deal with him right now,” K. said to himself, “but once my personal difficulties have been settled, then he’ll certainly be the first to get the effect of it, and he cer-
in reply, "What d'you want to see him for?" K. thought. "Titorelli, the painter?" She nodded and asked. "Do you pretend not to notice her behaviour and asked, "Do you look at K. earnestly, with sharp, acquisitive eyes. K. looked already quite depraved. She did not smile once, but her eyes lit up when the painter appeared. "Is there a painter, Titorelli, who lives here?" The girl, hardly thirteen years old, but with a hunchback, jabbed him with her elbow and looked at him sideways. Her youth and her bodily defects had done nothing to stop her being already quite depraved. She did not smile once, but looked at K. earnestly, with sharp, acquisitive eyes. K. pretended not to notice her behaviour and asked, "Do you know Titorelli, the painter?" She nodded and asked in reply, "What d'you want to see him for?" K. thought it would be to his advantage quickly to find out something more about Titorelli. "I want to have him paint my portrait," he said. "Paint your portrait?" she asked, opening her mouth too wide and lightly hitting K. with her hand as if he had said something extraordinarily surprising or clumsy, with both hands she lifted her skirt, which was already very short, and, as fast as she could, she ran off after the other girls whose indistinct shouts lost themselves in the heights. At the next turn of the stairs, however, K. encountered all the girls once more. The hunchbacked girl had clearly told them about K.'s intentions and they were waiting for him. They stood on both sides of the stairs, pressing themselves against the wall so that K. could get through between them, and smoothed their aprons down with their hands. All their faces, even in this guard of honour, showed a mixture of childishness and depravity. Up at the head of the line of girls, who now, laughing, began to close in around K., was the hunchback who had taken on the role of leader. It was thanks to her that K. found the right direction without delay—he would have continued up the stairs straight in front of him, but she showed him that to reach Titorelli he would need to turn off to one side. The steps that led up to the painter were especially narrow, very long without any turning, the whole length could be seen in one glance and, at the top, at Titorelli's closed door, it came to its end. This door was much better illuminated than the rest of the stairway by the light from a small skylight set obliquely above it, it had been put together from unpainted planks of wood and the name 'Titorelli' was painted on it in broad, red brushstrokes. K. was no more than half way up the steps, accompanied by his retinue of girls, when, clearly the result of the noise of all those footsteps, the door opened slightly and in the crack a man who seemed to be dressed in just his nightshirt appeared. "Oh!" he cried, when he saw the approaching crowd, and vanished. The hunchbacked girl clapped her hands in glee and the other girls crowded in behind K. to push him faster forward. They still had not arrived at the top, however, when the painter up above them suddenly pulled the door wide open and, with a deep bow, invited K. to enter. The girls, on the other hand, he tried to keep away, he did not want to let any of them in however much they begged him and however much they tried to get in—if they could not get in with his permission they would try to force their way in against his will. The only one to succeed was the hunchback who had taken on the role of leader. It was thanks to her that K. found the right direction without delay—he would have continued up the stairs straight in front of him, but she showed him that to reach Titorelli he would need to turn off to one side. 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all this, as they all seemed to be having fun. One behind the other, the girls by the door stretched their necks up high and called out various words to the painter which were meant in jest but which K. did not understand, and even the painter laughed as the hunchback whirled round in his hand. Then he shut the door, bowed once more to K., offered him his hand and introduced himself, saying, “Titorelli, painter”. K. pointed to the door, behind which the girls were whispering, and said, “You seem to be very popular in this building.” “Ach, those brats!” said the painter, trying in vain to fasten his nightshirt at the neck. He was also bare-footed and, apart from that, was wearing nothing more than a loose pair of yellowish linen trousers held up with a belt whose free end whipped to and fro. “Those kids are a real burden for me,” he continued. The top button of his nightshirt came off and he gave up trying to fasten it, fetched a chair for K. and made him sit down on it. “I painted one of them once—she’s not here today—and ever since then they’ve been following me about. If I’m here they only come in when I allow it, but as soon as I’ve gone out there’s always at least one of them in here. They had a key made to my door and lend it round to each other. It’s hard to imagine what a pain that is. Suppose I come back home with a lady I’m going to paint, I open the door with my own key and find the hunchback there or something, by the table painting her lips red with my paintbrush, and meanwhile her little sisters will be keeping guard for her, moving about and causing chaos in every corner of the room. Or else, like happened yesterday, I might come back home late in the evening—please forgive my appearance and the room being in a mess, it is to do with them—so, I might come home late in the evening and want to go to bed, then I feel something pinching my leg, look under the bed and pull another of them out from under it. I don’t know why it is they bother me like this, I expect you’ve just seen that I do nothing to encourage them to come near me. And they make it hard for me to do my work too, of course. If I didn’t get this studio for nothing I’d have moved out a long time ago.” Just then, a light in the room a picture stood on an easel, covered over with a shirt whose arms dangled down to the ground. Behind K. was the window through which the fog made it impossible to see further than the snow covered roof of the neighbouring building.

The turning of the key in the lock reminded K. that he had not wanted to stay too long. So he drew the manufacturer’s letter out from his pocket, held it out to the painter and said, “I learned about you from this gentleman, an acquaintance of yours, and it’s on his advice that I’ve come here”. The painter glanced through the letter and threw it down onto the bed. If the manufacturer had not said very clearly that Titorelli was an acquaintance of his, a poor man who was dependent on his charity, then it would really have been quite possible to believe that Titorelli did not know him or at least that he could not remember him. This impression was augmented by the painter’s asking, “Were you wanting to buy some pictures or did you want to have yourself painted?” K. looked at the painter in astonishment. What did the letter actually say? K. had taken it as a matter of course that the manufacturer had explained to the painter in his letter that K. wanted nothing more with him than to find out more about his trial. He had been far too rash in coming here! But now he had to give the painter some sort of answer and, glancing at the easel, said, “Are you working on a picture currently?” “Yes,” said the painter, and he took the shirt hanging over the easel and threw it onto the bed after the letter. “It’s a portrait. Quite a good piece of work, although it’s not quite finished yet.” This was a convenient coincidence for K., it gave him a good opportunity to talk about the court as the picture showed, very clearly, a judge. What’s more, it was remarkably similar to the picture in the lawyer’s office, although this one showed a quite different judge, a heavy man with a full beard which was black and bushy and extended to the sides far up the man’s cheeks. The lawyer’s picture was also an oil painting, whereas this one had been made with pastel colours and was pale and unclear. But everything else about the picture was similar, as this judge, too, was holding tightly to the arm of his throne and seemed ominously about to rise from it. At first K. was about to say, “He certainly is a judge,” but he held himself back for the time being and went closer to the picture as if he wanted to study it in detail. There was a large figure shown in middle of the throne’s back rest which K. could not understand and asked the painter about it. That’ll need some more work done on it, the painter told him, and taking a pastel crayon from a small table he added a few strokes to the edges of the figure but without making it any clearer as far as K. could make out. “That’s the figure of justice,” said the painter, finally. “Now I see,” said K., “here’s the blindfold and here are the scales. But aren’t
those wings on her heels, and isn’t she moving?” “Yes,” said the painter, “I had to paint it like that according to the contract. It’s actually the figure of justice and the goddess of victory all in one.” “That is not a good combination,” said K. with a smile. “Justice needs to remain still, otherwise the scales will move about and it won’t be possible to make a just verdict.” “I’m just doing what the client wanted,” said the painter. “Yes, certainly,” said K., who had not meant to criticise anyone by that comment. “You’ve painted the figure as it actually appears on the throne.” “No,” said the painter, “I’ve never seen that figure or that throne, it’s all just invention, but they told me what it was I had to paint.” “How’s that?” asked K. pretending not fully to understand what the painter said. “That is a judge sitting on the judge’s chair, isn’t it?” “Yes,” said the painter, “but that judge isn’t very high up and he’s never sat on any throne like that.” “And he has himself painted in such a grand pose? He’s sitting there and he’s never sat on any throne like that.” “Yes, said the painter, “but that judge isn’t very high up and he’s never sat on any throne like that.” “And he has
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about the court, like it says in your letter of recommendation, but then you start talking about my pictures to get me on your side. Still, I won’t hold it against you, you weren’t to know that that was entirely the wrong thing to try with me. Oh, please!” he said sharply, repelling K.’s attempt to make some objection. He then continued, “And besides, you’re quite right in your comment that I’m a trustee of the court.” He made a pause, as if wanting to give K. the time to come to terms with this fact. The girls could once more be heard from behind the door. They were probably pressed around the keyhole, perhaps they could even see into the room through the gaps in the planks. K. forewent the opportunity to excuse himself in some way as he did not wish to distract the painter from what he was saying, or else perhaps he didn’t want him to get too far above himself and in this way make himself to some extent unattainable, so he asked, “Is that a publicly acknowledged position?” “No,” was the painter’s curt reply, as if the question prevented him saying any more. But K. wanted him to continue speaking and said, “Well, positions like that, that aren’t officially acknowledged, can often have more influence than those that are.” “And that’s how it is with me,” said the painter, and nodded with a frown. “I was talking about your case with the manufacturer yesterday, and he asked me if I wouldn’t like to help you, and I answered: ‘He can come and see me if he likes’, and now I’m pleased to see you here so soon. This business seems to be quite important to you, and, of course, I’m not surprised at that. Would you not like to take your coat off now?” K. had intended to stay for only a very short time, but the painter’s invitation was nonetheless very welcome. The air in the room had slowly become quite oppressive for him, he had several times looked in amazement at a small, iron stove in the corner that certainly could not have been lit, the heat of the room was inexplicable. As he took off his winter overcoat and also unbuttoned his frock coat the painter said to him in apology, “I must have warmth. And it is very cozy here, isn’t it. This room’s very good in that respect.” K. made no reply, but it was actually not the heat that made him uncomfortable but, much more, the stuffiness, the air that almost made it more difficult to breathe, the room had probably not been ventilated for a long time. The unpleasantness of this was made all the stronger for K. when the painter invited him to sit on the bed while he himself sat down on the only chair in the room in front of the easel. The painter even seemed to misunderstand why K. remained at the edge of the bed and urged K. to make himself comfortable, and as he hesitated he went over to the bed himself and pressed K. deep down into the bedclothes and pillows. Then he went back to his seat and at last he asked his first objective question, which made K. forget everything else.
“You’re innocent, are you?” he asked. “Yes,” said K. He felt a simple joy at answering this question, especially as the answer was given to a private individual and therefore would have no consequences. Up till then no-one had asked him this question so openly. To make the most of his pleasure he added, “I am totally innocent.” “So,” said the painter, and he lowered his head and seemed to be thinking. Suddenly he raised his head again and said, “Well if you’re innocent it’s all very simple.” K. began to scowl, this supposed trustee of the court was talking like an ignorant child. “My being innocent does not make things simple,” said K. Despite everything, he couldn’t help smiling and slowly shook his head. “There are many fine details in which the court gets lost, but in the end it reaches into some place where originally there was nothing and pulls enormous guilt out of it.” “Yeah, yeah, sure,” said the painter, as if K. had been disturbing his train of thought for no reason. “But you are innocent, aren’t you?” “Well of course I am,” said K. “That’s the main thing,” said the painter. There was no counter-argument that could influence him, but although he had made up his mind it was not clear whether he was talking this way because of conviction or indifference. K., then, wanted to find out and said therefore, “I’m sure you’re more familiar with the court than I am, I know hardly more about it than what I’ve heard, and that’s been from many very different people. But they were all agreed on one thing, and that was that when ill thought-out accusations are made they are not ignored, and that once the court has made an accusation it is convinced of the guilt of the defendant and it’s very hard to make it think otherwise.” “Very hard?” the painter asked, throwing one hand up in the air. “It’s impossible to make it think otherwise. If I painted all the judges next to each other here on canvas, and you were trying to defend yourself in front of it, you’d have more success with them than you’d ever have with the real court.” “Yes,” said K. to himself, forgetting that he had only gone there to investigate the painter.

One of the girls behind the door started up again, and asked, “Titorelli, is he going to go soon?” “Quiet!” shouted the painter at the door, “Can’t you see I’m talking with the gentleman?” But this was not enough to satisfy the girl and she asked, “You going to paint his picture?” And when the painter didn’t answer she added, “Please don’t paint him, he’s an ‘orrible bloke.” There followed an incomprehensible, interwoven babble of shouts and replies and calls of agreement. The painter leapt over to the door, opened it very slightly—the girls’ clasped hands could be seen stretching through the crack as if they wanted something—and said, “If you’re not quiet I’ll throw you all down the stairs. Sit down here on the steps and be quiet.” They probably did not obey him immediately, so that he had to command, “Down on the steps!” Only then it became quiet.

“I’m sorry about that,” said the painter as he returned to K. K. had hardly turned towards the door, he had left it completely up to the painter whether and how he would place him under his protection if he wanted to. Even now, he made hardly any movement as the painter bent over him and, whispering into his ear in order not to be heard outside, said, “These girls belong to the court as well.” “How’s that?” asked K., as he leant his head to one side and looked at the painter. But the painter sat back down on his chair and, half in jest, half in explanation, “Well, everything belongs to the court.” “That is something I had never noticed until now,” said K. curtly, this general comment of the painter’s made his comment about the girls far less disturbing. Nonetheless, K. looked for a while at the door, behind which the girls were now sitting quietly on the steps. Except, that one of them had pushed a drinking straw through a crack between the planks and was moving it slowly up and down. “You still don’t seem to have much general idea of what the court’s about”, said the painter, who had stretched his legs wide apart and was tapping loudly on the floor with the tip of his foot. “But as you’re innocent you won’t need it anyway. I’ll get you out of this by myself.” “How do you intend to do that?” asked K. “You did say yourself not long ago that it’s quite impossible to go to the court with reasons and proofs.” “Only impossible for reasons and proofs you take to the court yourself” “said the painter, raising his forefinger as if K. had failed to notice a fine distinction. “It goes differently if you try to do something behind the public court, that’s to say in the consultation rooms, in the corridors or here, for instance, in my studio.” K. now began to find it far easier to believe what the painter was saying, or rather it was largely in agreement with what he had also been told by others. In fact it was even quite promising. If it really was so easy to influence the judges through personal contacts as the lawyer had said then the painter’s contacts with these vain judges was especially important, and at the very least should not be undervalued. And the painter would fit in very well in the circle of assistants that K. was slowly gathering around himself. He had been noted at the bank for his talent in organising, here, where he was placed entirely on his own resources, would be a good opportunity to test that talent to its limits. The painter observed the effect his explanation had had on K. and then, with a certain unease, said, “Does it not occur to you that the way I’m speaking is almost like a lawyer? It’s the incessant contact with the gentlemen of the court has that influence on me. I gain a lot by it, of course, but I lose a lot, artistically speaking.” “How did you first come into contact with the judges, then?” asked K., he wanted first to gain the painter’s trust before he took him into his service. “That was very easy,” said the
painter, “I inherited these contacts. My father was court painter before me. It’s a position that’s always inherited. The can’t use new people for it, the rules governing how the various grades of officials are painted are so many and varied, and, above all, so secret that no-one outside of certain families even knows them. In the drawer there, for instance, I’ve got my father’s notes, which I don’t show to anyone. But you’re only able to paint judges if you know what they say. Although, even if I lost them no-one could ever dispute my position because of all the rules I just carry round in my head. All the judges want to be painted like the old, great judges were, and I’m the only one who can do that.” “You are to be envied,” said K., thinking of his position at the bank. “Your position is quite unassailable, then?” “Yes, quite unassailable,” said the painter, and he raised his shoulders in pride. “That’s how I can even afford to help some poor man facing trial now and then.” “And how do you do that?” asked K., as if the painter had not just described him as a poor man. The painter did not let himself be distracted, but said, “In your case, for instance, as you’re totally innocent, this is what I’ll do.” The repeated mention of K.’s innocence was becoming irksome to him. It sometimes seemed to him as if the painter was using these comments to make a favourable outcome to the trial a precondition for his help, which of course would make the help itself unnecessary. But despite these doubts K. forced himself not to interrupt the painter. He did not want to do without the painter’s help, that was what he had decided, and this help did not seem in any way less questionable than that of the lawyer. K. valued the painter’s help far more highly because it was offered in a way that was more harmless and open.

The painter had pulled his seat closer to the bed and continued in a subdued voice: “I forgot to ask you; what sort of acquittal is it you want? There are three possibilities; absolute acquittal, apparent acquittal and deferment. Absolute acquittal is the best, of course, only there’s nothing I could do to get that sort of outcome. I don’t think there’s anyone at all who could do anything to get an absolute acquittal. Probably the only thing that could do that is if the accused is innocent. As you are innocent it could actually be possible and you could depend on your innocence alone. In that case you won’t need me or any other kind of help.”

At first, K. was astonished at this orderly explanation, but then, just as quietly as the painter, he said, “I think you’re contradicting yourself.” “How’s that?” asked the painter patiently, leaning back with a smile. This smile made K. feel as if he were examining not the words of the painter but seeking out inconsistencies in the procedures of the court itself. Nonetheless, he continued unabashed and said, “You remarked earlier that the court cannot be approached with reasoned proofs, you later restricted this to the open court, and now you go so far as to say that an innocent man needs no assistance in court. That entails a contradiction. Moreover, you said earlier that the judges can be influenced personally but now you insist that an absolute acquittal, as you call it, can never be attained through personal influence. That entails a second contradiction.” “It’s quite easy to clear up these contradictions,” said the painter. “We’re talking about two different things here, there’s what it says in the law and there’s what I know from my own experience, you shouldn’t get the two confused. I’ve never seen it in writing, but the law does, of course, say on the one hand that the innocent will be set free, but on the other hand it doesn’t say that the judges can be influenced. But in my experience it’s the other way round. I don’t know of any absolute acquittals but I do know of many times when a judge has been influenced. It’s possible, of course, that there was no innocence in any of the cases I know about. But is that likely? Not a single innocent defendant in so many cases? When I was a boy I used to listen closely to my father when he told us about court cases at home, and the judges that came to his studio talked about the court, in our circles nobody talks about anything else; I hardly ever got the chance to go to court myself but always made use of it when I could, I’ve listened to countless trials at important stages in their development, I’ve followed them closely as far as they could be followed, and I have to say that I’ve never seen a single acquittal.” “So. Not a single acquittal,” said K., as if talking to himself and his hopes. “That confirms the impression I already have of the court. So there’s no point in it from this side either. They could replace the whole court with a single hangman.” “You shouldn’t generalise,” said the painter, dissatisfied. “I’ve only been talking about my own experience.” “Well that’s enough,” said K., “or have you heard of any acquittals that happened earlier?” “They say there have been some acquittals earlier,” the painter answered, “but it’s very hard to be sure about it. The courts don’t make their final conclusions public, not even the judges are allowed to know about them, so that all we know about these earlier cases are just legends. But most of them did involve absolute acquittals, you can believe that, but they can’t be proved. On the other hand, you shouldn’t forget all about them either, I’m sure there is some truth to them, and they are very beautiful, I’ve painted a few pictures myself depicting these legends.” “My assessment will not be altered by mere legends,” said K. “I don’t suppose it’s possible to cite these legends in court, is it?” The painter laughed. “No, you can’t cite them in court,” he said. “Then there’s no point in talking about them.”
even if he thought it unlikely or contradicted what he had been told by others. He did not now have the time to examine the truth of everything the painter said or even to disprove it, he would have achieved as much as he could if the painter would help him in any way even if his help would not be decisive. As a result, he said, “So let’s pay no more attention to absolute acquittal, but you mentioned two other possibilities.” “Apparent acquittal and deferment. They’re the only possibilities,” said the painter. “But before we talk about them, would you not like to take your coat off? You must be hot.” “Yes,” said K., who until then had paid attention to nothing but the painter’s explanations, but now that he had had the heat pointed out to him his brow began to sweat heavily. “It’s almost unbearable.” The painter nodded as if he understood K.’s discomfort very well. “Could we not open the window?” asked K. “No,” said the painter. “It’s only a single pane of glass, it can’t be opened.” K. now realised that all this time he had been hoping the painter would suddenly go over to the window and pull it open. He had prepared himself even for the fog that he would breathe in through his open mouth. The thought that here he was entirely cut off from the air made him feel dizzy. He tapped lightly on the bedspread beside him and, with a weak voice, said, “That is very inconvenient and unhealthy.” “Oh no,” said the painter in defence of his window, “as it can’t be opened this room retains the heat better than if the window were double glazed, even though it’s only a single pane. There’s not much need to air the room as there’s so much ventilation through the gaps in the wood, but when I do want to I can open one of my doors, or even both of them.” K. was slightly consoled by this explanation and looked around to see where the second door was. The painter saw him do so and said, “It’s behind you, I had to hide it behind the bed.” Only then was K. able to see the little door in the wall. “It’s really much too small for a studio here,” said the painter, as if he wanted to anticipate an objection K. would make. “I had to arrange things as well as I could. That’s obviously a very bad place for the bed, in front of the door. For instance when the judge I’m painting at present comes he always comes through the door by the bed, and I’ve even given him a key to this door so that he can wait for me here in the studio when I’m not home. Although nowadays he usually comes early in the morning when I’m still asleep. And of course, it always wakes me up when I hear the door opened beside the bed, however fast asleep I am. If you could hear the way I curse him as he climbs over my bed in the morning you’d lose all respect for judges. I suppose I could take the key away from him but that’d only make things worse. It only takes a tiny effort to break any of the doors here off their hinges.” All the time the painter was speaking, K. was considering whether he should take off his coat, but he finally realised that, if he didn’t do so, he would be quite unable to stay here any longer, so he took off his frock coat and lay it on his knee so that he could put it back on again as soon as the conversation was over. He had hardly done this when one of the girls called out, “Now he’s taken his coat off!” and they could all be heard pressing around the gaps in the planks to see the spectacle for themselves. “The girls think I’m going to paint your portrait,” said the painter, “and that’s why you’re taking your coat off.” “I see,” said K., only slightly amused by this, as he felt little better than he had before even though he now sat in his shirtsleeves. With some irritation he asked, “What did you say the two other possibilities were?” He had already forgotten the terms used. “Apparent acquittal and deferment,” said the painter. “It’s up to you which one you choose. You can get either of them if I help you, but it’ll take some effort of course, the difference between them is that apparent acquittal needs concentrated effort for a while and that deferment takes much less effort but it has to be sustained. Now then, apparent acquittal. If that’s what you want I’ll write down an assertion of your innocence on a piece of paper. The text for an assertion of this sort was passed down to me from my father and it’s quite unassailable. I take this assertion round to the judges I know. So I’ll start off with the one I’m currently painting, and put the assertion to him when he comes for his sitting this evening. I’ll lay the assertion in front of him, explain that you’re innocent and give him my personal guarantee of it. And that’s not just a superficial guarantee, it’s a real one and it’s binding.” The painter’s eyes seemed to show some reproach of K. for wanting to impose that sort of responsibility on him. “That would be very kind of you”, said K. “And would the judge then believe you and nonetheless not pass an absolute acquittal?” “It’s like I just said,” answered the painter. “And anyway, it’s not entirely sure that all the judges would believe me, many of them, for instance, might want me to bring you to see them personally. So then you’d have to come along too. But at least then, if that happens, the matter is half way won, especially as I’d teach you in advance exactly how you’d need to act with the judge concerned, of course. What also happens, though, is that there are some judges who’ll turn me down in advance, and that’s worse. I’ll certainly make several attempts, but still, we’ll have to forget about them, but at least we can afford to do that as no one judge can pass the decisive verdict. Then when I’ve got enough judges’ signatures on this document I take it to the judge who’s concerned with your case. I might even have his signature already, in which case things develop a bit quicker than they would do otherwise. But there aren’t usually many hold ups from then on, and that’s the time that the de-
defendant can feel most confident. It’s odd, but true, that people feel more confidence in this time than they do after they’ve been acquitted. There’s no particular exertion needed now. When he has the document asserting the defendant’s innocence, guaranteed by a number of other judges, the judge can acquit you without any worries, and although there are still several formalities to be gone through there’s no doubt that that’s what he’ll do as a favour to me and several other acquaintances. You, however, walk out the court and you’re free.” “So, then I’ll be free,” said K., hesitantly. “That’s right,” said the painter, “but only apparently free or, to put it a better way, temporarily free, as the most junior judges, the ones I know, don’t have the right to give the final acquittal. Only the highest judge can do that, in the court that’s quite of reach for you, for me and for all of us. We don’t know how things look there and, incidentally, we don’t want to know. The right to acquit people is a major privilege and our judges don’t have it, but they do have the right to free people from the indictment. That’s to say, if they’re freed in this way then for the time being the charge is withdrawn but it’s still hanging over their heads and it only takes an order from higher up to bring it back into force. And as I’m in such good contact with the court I can also tell you how the difference between absolute and apparent acquittal is described, just in a superficial way, in the directives to the court offices. If there’s an absolute acquittal all proceedings should stop, everything disappears from the process, not just the indictment but the trial and even the acquittal disappears, everything just disappears. With an apparent acquittal it’s different. When that happens, nothing has changed except that the case for your innocence, for your acquittal and the grounds for the acquittal have been made stronger. Apart from that, proceedings go on as before, the court offices continue their business and the case gets passed to higher courts, gets passed down to the lower courts and so on, backwards and forwards, sometimes faster, sometimes slower, to and fro. It’s impossible to know exactly what’s happening while this is going on. Seen from outside it can sometimes seem that everything has been long since forgotten, the documents have been lost and the acquittal is complete. No-one familiar with the court would believe it. No documents ever get lost, the court forgets nothing. One day—no-one expects it—some judge or other picks up the documents and looks more closely at them, he notices that this particular case is still active, and orders the defendant’s immediate arrest. I’ve been talking here as if there’s a long delay between apparent acquittal and re-arrest, that is quite possible and I do know of cases like that, but it’s just as likely that the defendant goes home after he’s been acquitted and finds somebody there waiting to re-arrest him. Then, of course, his life as a free man is at an end.” “And does the trial start over again?” asked K., finding it hard to believe. “The trial will always start over again,” said the painter, “but there is, once again as before, the possibility of getting an apparent acquittal. Once again, the accused has to muster all his strength and mustn’t give up.” The painter said that last phrase possibly as a result of the impression that K., whose shoulders had dropped somewhat, gave on him. “But to get a second acquittal,” asked K., as if in anticipation of further revelations by the painter, “is that not harder to get than the first time?” “As far as that’s concerned,” answered the painter, “there’s nothing you can say for certain. You mean, do you, that the second arrest would have an adverse influence on the judge and the verdict he passes on the defendant? That’s not how it happens. When the acquittal is passed the judges are already aware that re-arrest is likely. So when it happens it has hardly any effect. But there are countless other reasons why the judges’ mood and their legal acumen in the case can be altered, and efforts to obtain the second acquittal must therefore be suited to the new conditions, and generally just as vigorous as the first.” “But this second acquittal will once again not be final,” said K., shaking his head. “Of course not,” said the painter, “the second acquittal is followed by the third arrest, the third acquittal by the fourth arrest and so on. That’s what is meant by the term apparent acquittal.” K. was silent. “You clearly don’t think an apparent acquittal offers much advantage,” said the painter, “perhaps deferment would suit you better. Would you like me to explain what deferment is about?” K. nodded. The painter had leant back and spread himself out in his chair, his nightshirt was wide open, he had pushed his hand inside and was stroking his breast and his sides. “Deferment,” said the painter, looking vaguely in front of himself for a while as if trying to find a perfectly appropriate explanation, “deferment consists of keeping proceedings permanently in their earliest stages. To do that, the accused and those helping him need to keep in continuous personal contact with the court, especially those helping him. I repeat, this doesn’t require so much effort as getting an apparent acquittal, but it probably requires a lot more attention. You must never let the trial out of your sight, you have to go and see the appropriate judge at regular intervals as well as when something in particular comes up and, whatever you do, you have to try and remain friendly with him; if you don’t know the judge personally you have to influence him through the judges you do know, and you have to do it without giving up on the direct discussions. As long as you don’t fail to do any of these things you can be reasonably sure the trial won’t get past its first stages. The trial doesn’t stop, but the defendant is almost as certain of avoiding
conviction as if he’d been acquitted. Compared with an apparent acquittal, deferment has the advantage that the defendant’s future is less uncertain, he’s safe from the shock of being suddenly re-arrested and doesn’t need to fear the exertions and stress involved in getting an apparent acquittal just when everything else in his life would make it most difficult. Deferment does have certain disadvantages of its own though, too, and they shouldn’t be under-estimated. I don’t mean by this that the defendant is never free, he’s never free in the proper sense of the word with an apparent acquittal either. There’s another disadvantage. Proceedings can’t be prevented from moving forward unless there are some at least ostensible reasons given. So something needs to seem to be happening when looked at from the outside. This means that from time to time various injunctions have to be obeyed, the accused has to be questioned, investigations have to take place and so on. The trial’s been artificially constrained inside a tiny circle, and it has to be continuously spun round within it. And that, of course, brings with it certain unpleasantnesses for the accused, although you shouldn’t imagine they’re all that bad. All of this is just for show, the interrogations, for instance, they’re only very short, if you ever don’t have the time or don’t feel like going to them you can offer an excuse, with some judges you can even arrange the injunctions together a long time in advance, in essence all it means is that, as the accused, you have to report to the judge from time to time.” Even while the painter was speaking those last words K. had laid his coat over his arm and had stood up. Immediately, from outside the door, there was a cry of ’He’s standing up now!’ “Are you leaving already?” asked the painter, who had also stood up. “It must be the air that’s driving you out. I’m very sorry about that. There’s still a lot I need to tell you. I had to put everything very briefly but I hope at least it was all clear.” “Oh yes,” said K., whose head was aching from the effort of listening. Despite this affirmation the painter summed it all up once more, as if he wanted to give K. something to console him on his way home. “Both have in common that they prevent the defendant being convicted,” he said. “But they also prevent his being properly acquitted,” said K. quietly, as if ashamed to acknowledge it. “You’ve got it, in essence,” said the painter quickly. K. placed his hand on his winter overcoat but could not bring himself to put it on. Most of all he would have liked to pack everything together and run out to the fresh air. Not even the girls could induce him to put his coat on, even though they were already loudly telling each other that he was doing so. The painter still had to interpret K.’s mood in some way, so he said, “I expect you’ve deliberately avoided deciding between my suggestions yet. That’s good. I would even have advised against making a decision straight away. There’s no more than a hair’s breadth of difference between the advantages and disadvantages. Everything has to be carefully weighed up. But the most important thing is you shouldn’t lose too much time.” “I’ll come back here again soon,” said K., who had suddenly decided to put his frock coat on, threw his overcoat over his shoulder and hurried over to the door behind which the girls now began to scream. K. thought he could even see the screaming girls through the door. “Well, you’ll have to keep your word,” said the painter, who had not followed him, “otherwise I’ll to the bank to ask about it myself.” “Will you open this door for me,” said K. pulling at the handle which, as he noticed from the resistance, was being held tightly by the girls on the other side. “Do you want to be bothered by the girls?” asked the painter. “It’s better if you use the other way out,” he said, pointing to the door behind the bed. K. agreed to this and jumped back to the bed. But instead of opening that door the painter crawled under the bed and from underneath it asked K., “Just a moment more, would you not like to see a picture I could sell to you?” K. did not want to be impolite, the painter really had taken his side and promised to help him more in the future, and because of K.’s forgetfulness there had been no mention of any payment for the painter’s help, so K. could not turn him down now and allowed him to show him the picture, even though he was quivering with impatience to get out of the studio. From under the bed, the painter withdrew a pile of unframed paintings. They were so covered in dust that when the painter tried to blow it off the one on top the dust swirled around in front of K.’s eyes, robbing him of breath for some time. “Moorland landscape,” said the painter passing the picture to K. It showed two sickly trees, well separated from each other in dark grass. In the background there was a multi-coloured sunset. “That’s nice,” said K. “I’ll buy it.” K. expressed himself in this curt way without any thought, so he was glad when the painter did not take this amiss and picked up a second painting from the floor. “This is a counterpart to the first picture,” said the painter. Perhaps it had been intended as a counterpart, but there was not the slightest difference to be seen between it and the first picture, there were the trees, there the grass and there the sunset. But this was of little importance to K. “They are beautiful landscapes,” he said, “I’ll buy them both and hang them in my office.” “You seem to like this subject,” said the painter, picking up a third painting, “good job I’ve still got another, similar picture here.” The picture though, was not similar, rather it was exactly the same moorland landscape. The painter was fully exploiting this opportunity to sell off his old pictures. “I’ll take this one too,” said K. “How much do the three paintings cost?” “We can talk about that next time,” said the painter. “You’re
in a hurry now, and we’ll still be in contact. And besides, I’m glad you like the paintings, I’ll give you all the paintings I’ve got down here. They’re all moorland landscapes, I’ve painted a lot of moorland landscapes. A lot of people don’t like that sort of picture because they’re too gloomy, but there are others, and you’re one of them, who love gloomy themes.” But K. was not in the mood to hear about the professional experiences of this painter cum beggar. “Wrap them all up!” he called out, interrupting the painter as he was speaking, “my servant will come to fetch them in the morning.” “There’s no need for that,” said the painter. “I expect I can find a porter for you who can go with you now.” And, at last, he leant over the bed and unlocked the door. “Just step on the bed, don’t worry about that,” said the painter, “that’s what everyone does who comes in here.” Even without this invitation, K. had shown no compunction in already placing his foot in the middle of the bed covers, then he looked out through the open door and drew his foot back again. “What is that?” he asked the painter. “What are you so surprised at?” he asked, surprised in his turn. “Those are court offices. Didn’t you know there are court offices here? There are court offices in almost every attic, why should this building be any different? Even my studio is actually one of the court offices but the court put it at my disposal.” It was not so much finding court offices even here that shocked K., he was mainly shocked at himself, at his own naivety in court matters. It seemed to him that one of the most basic rules governing how a defendant should behave was always to be prepared, never allow surprises, never to look, unsuspecting, to the right when the judge stood beside him to his left—and this was the very basic rule that he was continually violating. A long corridor extended in from of him, air blew in from it which, compared with the air in the studio, was refreshing. There were benches set along each side of the corridor just as in the waiting area for the office he went to himself. There seemed to be precise rules governing how offices should be equipped. There did not seem to be many people visiting the offices that day. There was a man there, half sitting, half laying, his face was buried in his arm on the bench and he seemed to be sleeping; another man was standing in the half-dark at the end of the corridor. K. now climbed over the bed, the painter followed him with the pictures. They soon came across a servant of the court—K. was now able to recognise all the servants of the court from the gold buttons they wore on their civilian clothes below the normal buttons—and the painter instructed him to go with K. carrying the pictures. K. staggered more than he walked, his handkerchief pressed over his mouth. They had nearly reached the exit when the girls stormed in on them, so K. had not been able to avoid them. They had clearly seen that the second door of the studio had been opened and had gone around to impose themselves on him from this side. “I can’t come with you any further!” called out the painter with a laugh as the girls pressed in. “Goodbye, and don’t hesitate too long!” K. did not even look round at him. Once on the street he took the first cab he came across. He now had to get rid of the servant, whose gold button continually caught his eye even if it caught no-one else’s. As a servant, the servant of the court was going to sit on the coach-box. But K. chased him down from there. It was already well into the afternoon when K. arrived in front of the bank. He would have liked to leave the pictures in the cab but feared there might be some occasion when he would have to let the painter see he still had them. So he had the pictures taken to his office and locked them in the lowest drawer of his desk so that he could at least keep them safe from the deputy director’s view for the next few days.

Chapter 8: Block, the businessman—Dismissing the lawyer

K. had at last made the decision to withdraw his defence from the lawyer. It was impossible to remove his doubts as to whether this was the right decision, but this was outweighed by his belief in its necessity. This decision, on the day he intended to go to see the lawyer, took a lot of the strength he needed for his work, he worked exceptionally slowly, he had to remain in his office a long time, and it was already past ten o’clock when he finally stood in front of the lawyer’s front door. Even before he rang he considered whether it might not be better to give the lawyer notice by letter or telephone, a personal conversation would certainly be very difficult. Nonetheless, K. did not actually want to do without it, if he gave notice by any other means it would be received in silence or with a few formulated words, and unless Leni could discover anything K. would never learn how the lawyer had taken his dismissal and what its consequences might be, in the lawyer’s not unimportant opinion. But sitting in front of him and taken by surprise by his dismissal, K. would be able easily to infer everything he wanted from the lawyer’s face and behaviour, even if he could not be induced to say very much. It was not even out of the question that K. might, after all, be persuaded that it would be best to leave his defence to the lawyer and withdraw his dismissal.

As usual, there was at first no response to K.’s ring at the door. “Leni could be a bit quicker,” thought K. But he could at least be glad there was nobody else interfering as usually happened, be it the man in his nightshirt or anyone else who might bother him. As K. pressed on
the button for the second time he looked back at the other door, but this time it, too, remained closed. At last, two eyes appeared at the spy-hatch in the lawyer’s door, although they weren’t Leni’s eyes. Someone unlocked the door, but kept himself pressed against it as he called back inside, “It’s him!”, and only then did he open the door properly. K. pushed against the door, as behind him he could already hear the key being hurriedly turned in the lock of the door to the other flat. When the door in front of him finally opened, he stormed straight into the hallway. Through the corridor which led between the rooms he saw Leni, to whom the warning cry of the door opener had been directed, still running away in her nightshirt. He looked at her for a moment and then looked round at the person who had opened the door. It was a small, wizened man with a full beard, he held a candle in his hand. “Do you work here?” asked K. “No,” answered the man, “I don’t belong here at all, the lawyer is only representing me, I’m here on legal business.” “Without your coat?” asked K., indicating the man’s deficiency of dress with a gesture of his hand. “Oh, do forgive me!” said the man, and he looked at himself in the light of the candle he was holding as if he had not known about his appearance until then. “Is Leni your lover?” asked K. curtly. He had set his legs slightly apart, his hands, in which he held his hat, were behind his back. Merely by being in possession of a thick overcoat he felt his advantage over this thin little man. “Oh God,” he said and, shocked, raised one hand in front of his face as if in defence, “no, no, what can you be thinking?” “You look honest enough,” said K. with a smile, “but come along anyway.” K. indicated with his hat which way the man was to go and let him go ahead of him. “What is your name then?” asked K. on the way. “Block. I’m a businessman,” said the small man, twisting himself round as he thus introduced himself, although K. did not allow him to stop moving. “Is that your real name?” asked K. “Of course it is,” was the man’s reply, “why do you doubt it?” “I thought you might have some reason to keep your name secret,” said K. He felt himself as much at liberty as is normally only felt in foreign parts when speaking with people of lower shoulders. The businessman was sitting on the chair that K. had directed him to, he had extinguished the candle whose light was no longer needed and pressed on the wick with his fingers to stop the smoke. “You were in your nightshirt,” said K., putting his hand on her head and turning it back towards the stove. She was silent. “Is he your lover?” asked K. She was about to take hold of the pot of soup, but K. took both her hands and said, “Answer me!” She said, “Come into the office, I’ll explain everything to you.” “No,” said K., “I want you to kiss me now.” “Josef,” said Leni, looking at K imploringly but frankly in the eyes, “you’re not going to be jealous of Mr. Block now, are you? Rudi,” she then said, turning to the businessman, “help me out will you, I’m
been asking about you. Don’t neglect your case! And you can see what sort of person he is. I’ve been helping him a little bit because he’s an important client of the lawyer’s, and no other reason. And what about you? Do you want to speak to the lawyer at this time of day? He’s very unwell today, but if you want I’ll tell him you’re here. But you can certainly spend the night with me. It’s so long since you were last here, even the lawyer has been asking about you. Don’t neglect your case! And I’ve got some things to tell you that I’ve learned about. But now, before anything else, take your coat off!” She helped him off with his coat, took the hat off his head, ran with the things into the hallway to hang them up, then she ran back and saw to the soup. “Do you want me to tell him you’re here straight away or take him his soup first?” “Tell him I’m here first,” said K. He was in a bad mood, he had originally intended a detailed discussion of his business with Leni, especially the question of his giving the lawyer notice, but now he no longer wanted to because of the presence of the businessman. Now he considered his affair too important to let this little businessman take part in it and perhaps change some of his decisions, and so he called Leni back even though she was already on her way to the lawyer. “Bring him his soup first,” he said, “I want him to get his strength up for the discussion with me, he’ll need it.” “You’re a client of the lawyer’s too, aren’t you,” said the businessman quietly from his corner as if he were trying to find this out. It was not, however, taken well. “What business is that of yours?” said K., and Leni said, “Will you be quiet.—I’ll take him his soup first then, shall I?” And she poured the soup into a dish. “The only worry then is that he might go to sleep soon after he’s eaten.” “What I’ve got to say to him will keep him awake,” said K., who still wanted to intimate that he intended some important negotiations with the lawyer, he wanted Leni to ask him what it was and only then to ask her advice. But instead, she just promptly carried out the order he had given her. When she went over to him with the dish she deliberately brushed against him and whispered, “I’ll tell him you’re here as soon as he’s eaten the soup so that I can get you back as soon as possible.” “Just go,” said K., “just go.” “Be a bit more friendly,” she said and, still holding the dish, turned completely round once more in the doorway.

K. watched her as she went; the decision had finally been made that the lawyer was to be dismissed, it was probably better that he had not been able to discuss the matter any more with Leni beforehand; she hardly understood the complexity of the matter, she would certainly have advised him against it and perhaps would even have prevented him from dismissing the lawyer this time, he would have remained in doubt and unease and eventually have carried out his decision after a while anyway as this decision was something he could not avoid. The sooner it was carried out the more harm would be avoided. And moreover, perhaps the businessman had something to say on the matter.

K. turned round, the businessman hardly noticed it as he was about to stand up. “Stay where you are,” said K. and pulled up a chair beside him. “Have you been a client of the lawyer’s for a long time?” asked K. “Yes,” said the businessman, “a very long time.” “How many years has he been representing you so far, then?” asked K. “I don’t know how you mean,” said the businessman, “he’s been my business lawyer—I buy and sell cereals—he’s been my business lawyer since I took the business over, and that’s about twenty years now, but perhaps you mean my own trial and he’s been representing me in that since it started, and that’s been more than five years. Yes, well over five years,” he then added, pulling out an old briefcase, “I’ve got everything written down; I can tell you the exact dates if you like. It’s so hard to remember everything. Probably, my trial’s been going on much longer than that, it started soon after the death of my wife, and that’s been more than five and a half years now.” K. moved closer to him. “So the lawyer takes on ordinary legal business, does he?” he asked. This combination of criminal and commercial business seemed surprisingly reassuring for K. “Oh yes,” said the businessman, and then he whispered, “They even say he’s more efficient in jurisprudence than he is in other matters.” But then he seemed to regret saying this, and he laid a hand on K.’s shoulder and said, “Please don’t betray me to him, will you.” K. patted his thigh to reassure him and said, “No, I don’t betray people.” “He can be so vindictive, you see,” said the businessman. “I’m sure he won’t do anything against such a faithful client as you,” said K. “Oh, he might do,” said the businessman, “when he gets cross it doesn’t matter who it is, and anyway, I’m not really faithful to him.” “How’s that then?” asked K. “I’m not sure I should tell you about it,” said the businessman hesitantly. “I think it’ll be alright,” said K. “Well then,” said the businessman, “I’ll tell you about some of it, but you’ll have to tell me a secret too, then we can support each other with the lawyer.” “You are very careful,” said K., “but I’ll tell you a secret that will set your mind completely at ease. Now tell me, in what way have you been unfaithful to the lawyer?” “I’ve …” said the businessman hesitantly, and in a tone as if he were confessing.
something dishonourable, “I’ve taken on other lawyers besides him.” “That’s not so serious,” said K., a little disappointed. “It is, here,” said the businessman, who had had some difficulty breathing since making his confession but who now, after hearing K.’s comment, began to feel more trust for him. “That’s not allowed. And it’s allowed least of all to take on petty lawyers when you’ve already got a proper one. And that’s just what I have done, besides him I’ve got five petty lawyers.” “Five!” exclaimed K., astonished at this number, “Five lawyers besides this one?” The businessman nodded. “I’m even negotiating with a sixth one.” “But why do you need so many lawyers?” asked K. “I need all of them,” said the businessman. “Would you mind explaining that to me?” asked K. “I’d be glad to,” said the businessman. “Most of all, I don’t want to lose my case, well that’s obvious. So that means I mustn’t neglect anything that might be of use to me; even if there’s very little hope of a particular thing being of any use I can’t just throw it away. So everything I have I’ve put to use in my case. I’ve taken all the money out of my business, for example, the offices for my business used to occupy nearly a whole floor, but now all I need is a little room at the back where I work with one apprentice. It wasn’t just using up the money that caused the difficulty, of course, it was much more to do with me not working at the business as much as I used to. If you want to do something about your trial you don’t have much time for anything else.” “So you’re also working at the court yourself?” asked K. “That’s just what I want to learn more about.” “I can’t tell you very much about that,” said the businessman, “at first I tried to do that too but I soon had to give it up again. It wears you out too much, and it’s really not much use. And it turned out to be quite impossible to work there yourself and to negotiate, at least for me it was. It’s a heavy strain there just sitting and waiting. You know yourself what the air is like in those offices.” “How do you know I’ve been there, then?” asked K. “I was in the waiting room myself when you went through.” “What a coincidence that is!” exclaimed K., totally engrossed and forgetting how ridiculous the businessman had seemed to him earlier. “So you saw me! You were in the waiting room when I went through. Yes, I did go through it one time.” “It isn’t such a big coincidence,” said the businessman. “I’m there nearly every day.” “I expect I’ll have to go there quite often myself now,” said K., “although I can hardly expect to be shown the same respect as I was then. They all stood up for me. They must have thought I was a judge.” “No,” said the businessman, “we were greeting the servant of the court. We knew you were a defendant. That sort of news spreads very quickly.” “So you already knew about that,” said K., “the way I behaved must have seemed very arrogant to you. Did you criticise me for it afterwards?” “No,” said the businessman, “quite the opposite. That was just stupidity.” “What do you mean, ‘stupidity’?” asked K. “Why are you asking about it?” said the businessman in some irritation. “You still don’t seem to know the people there and you might take it wrong. Don’t forget in proceedings like this there are always lots of different things coming up to talk about, things that you just can’t understand with reason alone, you just get too tired and distracted for most things and so, instead, people rely on superstition. I’m talking about the others, but I’m no better myself. One of these superstitions, for example, is that you can learn a lot about the outcome of a defendant’s case by looking at his face, especially the shape of his lips. There are lots who believe that, and they said they could see from the shape of your lips that you’d definitely be found guilty very soon. I repeat that all this is just a ridiculous superstition, and in most cases it’s completely disproved by the facts, but when you live in that society it’s hard to hold yourself back from beliefs like that. Just think how much effect superstition can have. You spoke to one of them there, didn’t you? He was hardly able to give you an answer. There are lots of things there that can make you confused, of course, but one of them, for him, was the appearance of your lips. He told us all later he thought he could see something in your lips that meant he’d be convicted himself.” “On my lips?” asked K., pulling out a pocket mirror and examining himself. “I can see nothing special about my lips. Can you?” “Nor can I,” said the businessman, “nothing at all.” “These people are so superstitious!” exclaimed K. “Isn’t that what I just told you?” asked the businessman. “Do you then have that much contact with each other, exchanging each other’s opinions?” said K. “I’ve kept myself completely apart so far.” “They don’t normally have much contact with each other,” said the businessman, “that would be impossible, there are so many of them. And they don’t have much in common either. If a group of them ever thinks they have found something in common it soon turns out they were mistaken. There’s nothing you can do as a group where the court’s concerned. Each case is examined separately, the court is very painstaking. So there’s nothing to be achieved by forming into a group, only sometimes an individual will achieve something in secret; and it’s only when that’s been done the others learn about it; nobody knows how it was done. So there’s no sense of togetherness, you meet people now and then in the waiting rooms, but we don’t talk much there. The superstitious beliefs were established a long time ago and they spread all by themselves.” “I saw those gentlemen in the waiting room,” said K., “it seemed so pointless for them to be waiting in that way.” “Waiting is not pointless,” said the businessman, “it’s only pointless if you try and inter-
fere yourself. I told you just now I’ve got five lawyers besides this one. You might think—I thought it myself at first—you might think I could leave the whole thing entirely up to them now. That would be entirely wrong. I can leave it up to them less than when I had just the one. Maybe you don’t understand that, do you?” “No,” said K., and to slow the businessman down, who had been speaking too fast, he laid his hand on the businessman’s to reassure him, “but I’d like just to ask you to speak a little more slowly, these are many very important things for me, and I can’t follow exactly what you’re saying.”

“You’re quite right to remind me of that,” said the businessman, “you’re new to all this, a junior. Your trial is six months old, isn’t it? Yes, I’ve heard about it. Such a new case! But I’ve already thought all these things through countless times, to me they’re the most obvious things in the world.” “You must be glad your trial has already progressed so far, are you?” asked K., he did not wish to ask directly how the businessman’s affairs stood, but received no clear answer anyway. “Yes, I’ve been working at my trial for five years now,” said the businessman as his head sank, “that’s no small achievement.” Then he was silent for a while. K. listened to hear whether Leni was on her way back. On the one hand he did not want her to come back too soon as he still had many questions to ask and did not want her to find him in this intimate discussion with the businessman, but on the other hand it irritated him that she stayed so long with the lawyer when K. was there, much longer than she needed to give him his soup. “I still remember it exactly,” the businessman began again, and K. immediately gave him his full attention, “when my case was as old as yours is now. I only had this one lawyer at that time but I wasn’t very satisfied with him.” Now I’ll find out everything, thought K., nodding vigorously as if he could thereby encourage the businessman to say everything worth knowing. “My case,” the businessman continued, “didn’t move on at all, there were some hearings that took place and I went to every one of them, collected materials, handed all my business books to the court—which I later found was entirely unnecessary—I ran back and forth to the lawyer, and he submitted various documents to the court too . . .”

“Various documents?” asked K. “Yes, that’s right,” said the businessman. “That’s very important for me,” said K., “in my case he’s still working on the first set of documents. He still hasn’t done anything. I see now that he’s been neglecting me quite disgracefully.” “There can be lots of good reasons why the first documents still aren’t ready,” said the businessman, “and anyway, it turned out later on that the ones he submitted for me were entirely worthless. I even read one of them myself, one of the officials at the court was very helpful. It was very learned, but it didn’t actually say anything. Most of all, there was lots of Latin, which I can’t understand, then pages and pages of general appeals to the court, then lots of flattery for particular officials, they weren’t named, these officials, but anyone familiar with the court must have been able to guess who they were, then there was self-praise by the lawyer where he humiliated himself to the court in a way that was downright dog-like, and then endless investigations of cases from the past which were supposed to be similar to mine. Although, as far as I was able to follow them, these investigations had been carried out very carefully. Now, I don’t mean to criticise the lawyer’s work with all of this, and the document I read was only one of many, but even so, and this is something I will say, at that time I couldn’t see any progress in my trial at all.” “And what sort of progress had you been hoping for?” asked K. “That’s a very sensible question,” said the businessman with a smile, “it’s only very rare that you see any progress in these proceedings at all. But I didn’t know that then. I’m a businessman, much more in those days than now, I wanted to see some tangible progress, it should have all been moving to some conclusion or at least should have been moving on in some way according to the rules. Instead of which there were just more hearings, and most of them went through the same things anyway; I had all the answers off pat like in a church service; there were messengers from the court coming to me at work several times a week, or they came to me at home or anywhere else they could find me; and that was very disturbing of course (but at least now things are better in that respect, it’s much less disturbing when they contact you by telephone), and rumours about my trial even started to spread among some of the people I do business with, and especially my relations, so I was being made to suffer in many different ways but there was still not the slightest sign that even the first hearing would take place soon. So I went to the lawyer and complained about it. He explained it all to me at length, but refused to do anything I asked for, no-one has any influence on the way the trial proceeds, he said, to try and insist on it in any of the documents submitted—like I was asking—was simply unheard of and would do harm to both him and me. I thought to myself: What this lawyer can’t or won’t do another lawyer will. So I looked round for other lawyers. And before you say anything: none of them asked for a definite date for the main trial and none of them got one, and anyway, apart from one exception which I’ll talk about in a minute, it really is impossible, that’s one thing this lawyer didn’t mislead me about; but besides, I had no reason to regret turning to other lawyers. Perhaps you’ve already heard how Dr. Huld talks about the petty lawyers, he probably made them sound very contemptible to you, and he’s right, they are contemptible. But when he talks about them and
compares them with himself and his colleagues there’s a small error running through what he says, and, just for your interest, I’ll tell you about it. When he talks about the lawyers he mixes with he sets them apart by calling them the ‘great lawyers’. That’s wrong, anyone can call himself ‘great’ if he wants to, of course, but in this case only the usage of the court can make that distinction. You see, the court says that besides the petty lawyers there are also minor lawyers and great lawyers. This one and his colleagues are only minor lawyers, and the difference in rank between them and the great lawyers, who I’ve only ever heard about and never seen, is incomparably greater than between the minor lawyers and the despised petty lawyers.” “The great lawyers?” asked K. “Who are they then? How do you contact them?” “You’ve never heard about them, then?” said the businessman. “There’s hardly anyone who’s been accused who doesn’t spend a lot of time dreaming about the great lawyers once he’s heard about them. It’s best if you don’t let yourself be misled in that way. I don’t know who the great lawyers are, and there’s probably no way of contacting them. I don’t know of any case I can talk about with certainty where they’ve taken any part. They do defend a lot of people, but you can’t get hold of them by your own efforts, they only defend those who they want to defend. And I don’t suppose they ever take on cases that haven’t already got past the lower courts. Anyway, it’s best not to think about them, as if you do it makes the discussions with the other lawyers, all their advice and all that they do manage to achieve, seem so unpleasant and useless. I had that experience myself, just wanted to throw everything away and lay at home in bed and hear nothing more about it. But that, of course, would be the stupidest thing you could do, and you wouldn’t be left in peace in bed for very long either.” “So you weren’t thinking about the great lawyers at that time?” asked K. “Not for very long,” said the businessman, and smiled again, “you can’t forget about them entirely, I’m afraid, especially in the night when these thoughts come so easily. But I wanted immediate results in those days, so I went to the petty lawyers.”

“Well look at you two sat huddled together!” called Leni as she came back with the dish and stood in the doorway. They were indeed sat close together, if either of them turned his head even slightly it would have knocked against the other’s, the businessman was not only very small but also sat hunched down, so that K. was also forced to bend down low if he wanted to hear everything. “Not quite yet!” called out K., to turn Leni away, his hand, still resting on the businessman’s hand, twitching with impatience. “He wanted me to tell him about my trial,” said the businessman to Leni. “Carry on, then, carry on,” she said. She spoke to the businessman with affection but, at the same time, with condescension. K. did not like that, he had begun to learn that the man was of some value after all, he had experience at least, and he was willing to share it. Leni was probably wrong about him. He watched her in irritation as Leni now took the candle from the businessman’s hand—which he had been holding on to all this time—wiped his hand with her apron and then knelt beside him to scratch off some wax that had dripped from the candle onto his trousers. “You were about to tell me about the petty lawyers,” said K., shoving Leni’s hand away with no further comment. “What’s wrong with you today?” asked Leni, tapped him gently and carried on with what she had been doing. “Yes, the petty lawyers,” said the businessman, putting his hand to his brow as if thinking hard. K. wanted to help him and said, “You wanted immediate results and so went to the petty lawyers.” “Yes, that’s right,” said the businessman, but did not continue with what he’d been saying. “Maybe he doesn’t want to speak about it in front of Leni,” thought K., suppressing his impatience to hear the rest straight away, and stopped trying to press him.

“Have you told him I’m here?” he asked Leni. “Course I have,” she said, “he’s waiting for you. Leave Block alone now, you can talk to Block later, he’ll still be here.” K. still hesitated. “You’ll still be here?” he asked the businessman, wanting to hear the answer from him and not wanting Leni to speak about the businessman as if he weren’t there, he was full of secret resentment towards Leni today. And once more it was only Leni who answered. “He often sleeps here.” “He sleeps here?” exclaimed K., he had thought the businessman would just wait there for him while he quickly settled his business with the lawyer, and then they would leave together to discuss everything thoroughly and undisturbed. “Yes,” said Leni, “not everyone’s like you, Josef, allowed to see the lawyer at any time you like. Do don’t even seem surprised that the lawyer, despite being ill, still receives you at eleven o’clock at night. You take it far too much for granted, what your friends do for you. Well, your friends, or at least I do, we like to do things for you. I don’t want or need any more thanks than that you’re fond of me.”

“Fond of you?” thought K. at first, and only then it occurred to him, “Well, yes, I am fond of her.” Nonetheless, what he said, forgetting all the rest, was, “He receives me because I am his client. If I needed anyone else’s help I’d have to beg and show gratitude whenever I do anything.” “He’s really nasty today, isn’t he?” Leni asked the businessman. “Now it’s me who’s not here,” thought K., and nearly lost his temper with the businessman when, with the same rudeness as Leni, he said, “The lawyer also has other reasons to receive him. His case is of some value after all, he has experience at least, and he was willing to share it. Leni was probably wrong about him. He watched her in irritation as Leni now took the candle from the businessman’s hand—which he had been holding on to all this time—wiped his hand with her apron and then knelt beside him to scratch off some wax that had dripped from the candle onto his trousers. “You were about to tell me about the petty lawyers,” said K., shoving Leni’s hand away with no further comment. “What’s wrong with you today?” asked Leni, tapped him gently and carried on with what she had been doing. “Yes, the petty lawyers,” said the businessman, putting his hand to his brow as if thinking hard. K. wanted to help him and said, “You wanted immediate results and so went to the petty lawyers.” “Yes, that’s right,” said the businessman, but did not continue with what he’d been saying. “Maybe he doesn’t want to speak about it in front of Leni,” thought K., suppressing his impatience to hear the rest straight away, and stopped trying to press him.

“Have you told him I’m here?” he asked Leni. “Course I have,” she said, “he’s waiting for you. Leave Block alone now, you can talk to Block later, he’ll still be here.” K. still hesitated. “You’ll still be here?” he asked the businessman, wanting to hear the answer from him and not wanting Leni to speak about the businessman as if he weren’t there, he was full of secret resentment towards Leni today. And once more it was only Leni who answered. “He often sleeps here.” “He sleeps here?” exclaimed K., he had thought the businessman would just wait there for him while he quickly settled his business with the lawyer, and then they would leave together to discuss everything thoroughly and undisturbed. “Yes,” said Leni, “not everyone’s like you, Josef, allowed to see the lawyer at any time you like. Do don’t even seem surprised that the lawyer, despite being ill, still receives you at eleven o’clock at night. You take it far too much for granted, what your friends do for you. Well, your friends, or at least I do, we like to do things for you. I don’t want or need any more thanks than that you’re fond of me.”
likes to deal with him. That’ll all change later on.” “Yeah, yeah,” said Leni, looking at the businessman and laughing. “He doesn’t half talk!” she said, turning to face K. “You can’t believe a word he says. He’s as talkative as he is sweet. Maybe that’s why the lawyer can’t stand him. At least, he only sees him when he’s in the right mood. I’ve already tried hard to change that but it’s impossible. Just think, there are times when I tell him Block’s here and he doesn’t receive him until three days later. And if Block isn’t on the spot when he’s called then everything’s lost and it all has to start all over again. That’s why I let Block sleep here, it wouldn’t be the first time Dr. Huld has wanted to see him in the night. So now Block is ready for that. Sometimes, when he knows Block is still here, he’ll even change his mind about letting him in to see him.” K. looked questioningly at the businessman. The latter nodded and, although he had spoken quite openly with K. earlier, seemed to be confused with shame as he said, “Yes, later on you become very dependent on your lawyer.” “He’s only pretending to mind,” said Leni. “He likes to sleep here really, he’s often said so.” She went over to a little door and shoved it open. “Do you want to see his bedroom?” she asked. K. went over to the low, windowless room and looked in from the doorway. The room contained a narrow bed which filled it completely, so that to get into the bed you would need to climb over the bedpost. At the head of the bed there was a niche in the wall where, fastidiously tidy, stood a candle, a bottle of ink, and a pen with a bundle of papers which were probably to do with the trial. “You sleep in the maid’s room?” asked K., as he went back to the businessman. “Leni’s let me have it,” answered the businessman, “it has many advantages.” K. looked long at him; his first impression of the businessman had perhaps not been right; he had experience as his trial had already lasted a long time, but he had paid a heavy price for this experience. K. was suddenly unable to bear the sight of the businessman any longer. “Bring him to bed, then!” he called out to Leni, who seemed to understand him. For himself, he wanted to go to the lawyer and, by dismissing him, free himself from not only the lawyer but also from Leni and the businessman. But before he had reached the door the businessman spoke to him gently. “Excuse me, sir,” he said, and K. looked round crossly. “You’ve forgotten your promise,” said the businessman, stretching his hand out to K. imploringly from where he sat. “You were going to tell me a secret.” “That is true,” said K., as he glanced at Leni, who was watching him carefully, to check on her. “So listen; it’s hardly a secret now anyway. I’m going to see the lawyer now to sack him.” “He’s sacking him!” yelled the businessman, and he jumped up from his chair and ran around the kitchen with his arms in the air. He kept on shouting, “He’s sacking his lawyer!” Leni tried to rush at K. but the businessman got in her way so that she shoved him away with her fists. Then, still with her hands balled into fists, she ran after K. who, however, had been given a long start. He was already inside the lawyer’s room by the time Leni caught up with him. He had almost closed the door behind himself, but Leni held the door open with her foot, grabbed his arm and tried to pull him back. But he put such pressure on her wrist that, with a sigh, she was forced to release him. She did not dare go into the room straight away, and K. locked the door with the key.

“I’ve been waiting for you a very long time,” said the lawyer from his bed. He had been reading something by the light of a candle but now he laid it onto the bedside table and put his glasses on, looking at K. sharply through them. Instead of apologising K. said, “I’ll be leaving again soon.” As he had not apologised the lawyer ignored what K. said, and replied, “I won’t let you in this late again next time.” “I find that quite acceptable,” said K. The lawyer looked at him quizzically. “Sit down,” he said. “As you wish,” said K., drawing a chair up to the bedside table and sitting down. “It seemed to me that you locked the door,” said the lawyer. “Yes,” said K., “it was because of Leni.” He had no intention of letting anyone off lightly. But the lawyer asked him, “Was she being importunate again?” “Importunate?” asked K. “Yes,” said the lawyer, laughing as he did so, had a fit of coughing and then, once it had passed, began to laugh again. “I’m sure you must have noticed how importunate she can be sometimes,” he said, and patted K.’s hand which K. had rested on the bedside table and which he now snatched back. “You don’t attach much importance to it, then,” said the lawyer when K. was silent, “so much the better. Otherwise I might have needed to apologise to you. It is a peculiarity of Leni’s. I’ve long since forgiven her for it, and I wouldn’t be talking of it now, if you hadn’t locked the door just now. Anyway, perhaps I should at least explain this peculiarity of hers to you, but you seem rather disturbed, the way you’re looking at me, and so that’s why I’ll do it, this peculiarity of hers consists in this; Leni finds most of the accused attractive. She attaches herself to each of them, loves each of them, even seems to be loved by each of them; then she sometimes entertains me by telling me about them when I allow her to. I am not so astonished by all of this as you seem to be. If you look at them in the right way the accused really can be attractive, quite often. But that is a remarkable and to some extent scientific phenomenon. Being indicted does not cause any clear, precisely definable change in a person’s appearance, of course. But it’s not like with other legal matters, most of them remain in their usual way of life and, if they have a good lawyer looking after them, the trial doesn’t get in their way. But there are nonetheless
Franz Kafka

The Trial: Chapter 8

those who have experience in these matters who can look at a crowd, however big, and tell you which among them is facing a charge. How can they do that, you will ask. My answer will not please you. It is simply that those who are facing a charge are the most attractive. It cannot be their guilt that makes them attractive as not all of them are guilty—at least that’s what I, as a lawyer, have to say—and nor can it be the proper punishment that has made them attractive as not all of them are punished, so it can only be that the proceedings levelled against them take some kind of hold on them. Whatever the reason, some of these attractive people are indeed very attractive. But all of them are attractive, even Block, pitiful worm that he is.” As the lawyer finished what he was saying, K. was fully in control of himself, he had even nodded conspicuously at his last few words in order to confirm to himself the view he had already formed: that the lawyer was trying to confuse him, as he always did, by making general and irrelevant observations, and thus distract him from the main question of what he was actually doing for K.’s trial. The lawyer must have noticed that K. was offering him more resistance than before, as he became silent, giving K. the chance to speak himself, and then, as K. also remained silent, he asked, “Did you have a particular reason for coming to see me today?”

“Yes,” said K., putting his hand up to slightly shade his eyes from the light of the candle so that he could see the lawyer better, “I wanted to tell you that I’m withdrawing my representation from you, with immediate effect.”

“Do I understand you rightly?” asked the lawyer as he half raised himself in his bed and supported himself with one hand on the pillow. “I think you do,” said K., sitting stiffly upright as if waiting in ambush. “Well we can certainly discuss this plan of yours,” said the lawyer after a pause. “It’s not a plan any more,” said K. “That may be,” said the lawyer, “but we still mustn’t rush anything.” He used the word ‘we’, as if he had no intention of letting K. go free, and as if, even if he could no longer represent him, he could still at least continue as his adviser. “Nothing is being rushed,” said K., standing slowly up and going behind his chair, “everything has been well thought out and probably even for too long. The decision is final.”

“Then allow me to say a few words,” said the lawyer, throwing the bed cover to one side and sitting on the edge of the bed. His naked, white-haired legs shivered in the cold. He asked K. to pass him a blanket from the couch. K. passed him the blanket and said, “You are running the risk of catching cold for no reason.”

“The circumstances are important enough,” said the lawyer as he wrapped the bed cover around the top half of his body and then the blanket around his legs. “Your uncle is my friend and in the course of time I’ve become fond of you as well. I admit that quite openly. There’s nothing in that for me to be ashamed of.” It was very unwelcome for K. to hear the old man speak in this touching way, as it forced him to explain himself more fully, which he would rather have avoided, and he was aware that it also confused him even though it could never make him reverse his decision. “Thank you for feeling so friendly toward me,” he said, “and I also realise how deeply involved you’ve been in my case, as deeply as possible for yourself and to bring as much advantage as possible to me. Nonetheless, I have recently come to the conviction that it is not enough. I would naturally never attempt, considering that you are so much older and more experienced than I am, to convince you of my opinion; if I have ever unintentionally done so then I beg your forgiveness, but, as you have just said yourself, the circumstances are important enough and it is my belief that my trial needs to be approached with much more vigour than has so far been the case.”

“I see,” said the lawyer, “you’ve become impatient.” “I am not impatient,” said K., with some irritation and he stopped paying so much attention to his choice of words. “When I first came here with my uncle you probably noticed I wasn’t greatly concerned about my case, and if I wasn’t reminded of it by force, as it were, I would forget about it completely. But my uncle insisted I should allow you to represent me and I did so as a favour to him. I could have expected the case to be less of a burden than it had been, as the point of taking on a lawyer is that he should take on some of its weight. But what actually happened was the opposite. Before, the trial was never such a worry for me as it has been since you’ve been representing me. When I was by myself I never did anything about my case, I was hardly aware of it, but then, once there was someone representing me, everything was set for something to happen, I was always, without cease, waiting for you to do something, getting more and more tense, but you did nothing. I did get some information about the court from you that I probably could not have got anywhere else, but that can’t be enough when the trial, supposedly in secret, is getting closer and closer to me.” K. had pushed the chair away and stood erect, his hands in the pockets of his frock coat. “After a certain point in the proceedings,” said the lawyer quietly and calmly, “nothing new of any importance ever happens. So many litigants, at the same stage in their trials, have stood before me just like you are now and spoken in the same way.”

“Then these other litigants,” said K., “have all been right, just as I am. That does not show that I’m not.” “I wasn’t trying to show that you were mistaken,” said the lawyer, “but I wanted to add that I expected better judgement from you than from the others, especially as I’ve given you more insight into the workings of the court and my own activities than I normally do. And now I’m forced to accept that, despite
K. thought he could hear what he could expect if he gave in, the delays and excuses would begin again, reports of how the documents were progressing, how the mood of the court officials had improved, as well as all the enormous difficulties—in short all that he had heard so many times before would be brought out again even more fully, he would try to mislead K. with hopes that were never specified and to make him suffer with threats that were never clear. He had to put a stop to that, so he said, “What will you undertake on my behalf if you continue to represent me?” The lawyer quietly accepted even this insulting question, and answered, “I should continue with what I’ve already been doing for you.” “That’s just what I thought,” said K., “and now you don’t need to say another word.” “I will make one more attempt,” said the lawyer as if whatever had been making K. so annoyed was affecting him too. “You see, I have the impression that you have not only misjudged the legal assistance I have given you but also that that misjudgement has led you to behave in this way, you seem, although you are the accused, to have been treated too well or, to put it a better way, handled with neglect, with apparent neglect. Even that has its reason; it is often better to be in chains than to be free. But I would like to show you how other defendants are treated, perhaps you will succeed in learning something from it. What I will do is I will call Block in, unlock the door and sit down here beside the bedside table.” “Be glad to,” said K., and did as the lawyer suggested; he was always ready to learn something new. But to make sure of himself for any event he added, “but you do realise that you are no longer to be my lawyer, don’t you?” “Yes,” said the lawyer. “But you can still change your mind today if you want to.” He lay back down in the bed, pulled the quilt up to his chin and turned to face the wall. Then he rang.

Leni appeared almost the moment he had done so. She looked hurriedly at K. and the lawyer to try and find out what had happened; she seemed to be reassured by the sight of K. sitting calmly at the lawyer’s bed. She smiled and nodded to K., K. looked blankly back at her. “Fetch Block,” said the lawyer. But instead of going to fetch him, Leni just went to the door and called out, “Block! To the lawyer!” Then, probably because the lawyer had turned his face to the wall and was paying no attention, she slipped in behind K.’s chair. From then on, she bothered him by leaning forward over the back of the chair or, albeit very tenderly and carefully, she would run her hands through his hair and over his cheeks. K. eventually tried to stop her by taking hold of one hand, and after some resistance Leni let him keep hold of it. Block came as soon as he was called, but he remained standing in the doorway and seemed to be wondering whether
he should enter or not. He raised his eyebrows and lowered his head as if listening to find out whether the order to attend the lawyer would be repeated. K. could have encouraged to enter, but he had decided to make a final break not only with the lawyer but with everything in his home, so he kept himself motionless. Leni was also silent. Block noticed that at least no-one was chasing him away, and, on tiptoe, he entered the room, his face was tense, his hands were clenched behind his back. He left the door open in case he needed to go back again. K. did not even glance at him, he looked instead only at the thick quilt under which the lawyer could not be seen as he had squeezed up very close to the wall. Then his voice was heard: “Block here?” he asked. Block had already crept some way into the room but this question seemed to give him first a shove in the breast and then another in the back, he seemed about to fall but remained standing, deeply bowed, and said, “At your service, sir.” “What do you want?” asked the lawyer, “you’ve come at a bad time.” “Wasn’t I summoned?” asked Block, more to himself than the lawyer. He held his hands in front of himself as protection and would have been ready to run away any moment. “You were summoned,” said the lawyer, “but you have still come at a bad time.” Then, after a pause he added. “You always come at a bad time.” When the lawyer started speaking Block had stopped looking at the bed but stared rather into one of the corners, just listening, as if the light from the speaker were brighter than Block could bear to look at. But it was also difficult for him to listen, as the lawyer was speaking into the wall and speaking quickly and quietly. “Would you like me to go away again, sir?” asked Block. “Well you’re here now,” said the lawyer. “Stay!” It was as if the lawyer had not done as Block had wanted but instead threatened him with a stick, as now Block really began to shake. “I went to see,” said the lawyer, “the third judge yesterday, a friend of mine, and slowly brought the conversation round to the subject of you. Do you want to know what he said?” “Oh, yes please,” said Block. The lawyer did not answer immediately, so Block repeated his request and lowered his head as if about to kneel down. But then K. spoke to him: “What do you think you’re doing?” he shouted. Leni had wanted to stop him from calling out and so he took hold of her other hand. It was not love that made him squeeze it and hold on to it so tightly, she sighed frequently and tried to disengage her hands from him. But Block was punished for K.’s outburst, as the lawyer asked him. “Who is your lawyer?” “You are, sir,” said Block. “And who besides me?” the lawyer asked. “No-one besides you, sir,” said Block. “And let there be no-one besides me,” said the lawyer. Block fully understood what that meant, he glowered at K., shaking his head violently. If these actions had been translated into words they would have been coarse insults. K. had been friendly and willing to discuss his own case with someone like this! “I won’t disturb you any more,” said K., leaning back in his chair. “You can kneel down or creep on all fours, whatever you like. I won’t bother with you any more.” But Block still had some sense of pride, at least where K. was concerned, and he went towards him waving his fists, shouting as loudly as he dared while the lawyer was there. “You shouldn’t speak to me like that, that’s not allowed. Why are you insulting me? Especially here in front of the lawyer, where both of us, you and me, we’re only tolerated because of his charity. You not a better person than me, you’ve been accused of something too, you’re facing a charge too. If, in spite of that, you’re still a gentleman then I’m just as much a gentleman as you are, if not even more so. And I want to be spoken to as a gentleman, especially by you. If you think being allowed to sit there and quietly listen while I creep on all fours as you put it makes you something better than me, then there’s an old legal saying you ought to bear in mind: If you’re under suspicion it better to be moving than still, as if you’re still you can be in the pan of the scales without knowing it and be weighed along with your sins.” K. said nothing. He merely looked in amazement at this distracted being, his eyes completely still. He had gone through such changes in just the last few hours! Was it the trial that was throwing him from side to side in this way and stopped him knowing who was friend and who was foe? Could he not see the lawyer was deliberately humiliating him and had no other purpose today than to show off his power to K., and perhaps even thereby subjugate K.? But if Block was incapable of seeing that, or if he so feared the lawyer that no such insight would even be of any use to him, how was it that he was either so sly or so bold as to lie to the lawyer and conceal from him the fact that he had other lawyers working on his behalf? And how did he dare to attack K., who could betray his secret any time he liked? But he dared even more than this, he went to the lawyer’s bed and began there to make complaints about K. “Dr. Huld, sir,” he said, “did you hear the way this man spoke to me? You can count the length of his trial in hours, and he wants to tell me what to do when I’ve been involved in a legal case for five years. He even insults me. He doesn’t know anything, but he insults me, when I, as far as my weak ability allows, when I’ve made a close study of how to behave with the court, what we ought to do and what the court practices are.” “Don’t let anyone bother you,” said the lawyer, “and do what seems to you to be right.” “I will,” said Block, as if speaking to himself to give himself courage, and with a quick glance to the side he knelt down close beside the bed. “I’m kneeling now Dr. Huld, sir,” he said. But the lawyer remained silent. With one
hand, Block carefully stroked the bed cover. In the si-

cence while he did so, Leni, as she freed herself from K.’s

days, said, “You’re hurting me. Let go of me. I’m going

to Block.” She went over to him and sat on the edge

of the bed. Block was very pleased at this and with lively,

but silent, gestures he immediately urged her to intercede

for him with the lawyer. It was clear that he desperately

needed to be told something by the lawyer, although per-

haps only so that he could make use of the information

with his other lawyers. Leni probably knew very well

how the lawyer could be brought round, pointed to his

hand and pursed her lips as if making a kiss. Block im-

mediately performed the hand-kiss and, at further urging

from Leni, repeated it twice more. But the lawyer con-

tinued to be silent. Then Leni leant over the lawyer, as

she stretched out, the attractive shape of her body could

be seen, and, bent over close to his face, she stroked his

long white hair. That now forced him to give an answer.

“I’m rather wary of telling him,” said the lawyer, and his

head could be seen shaking slightly, perhaps so that he

would feel the pressure of Leni’s hand better. Block lis-

tened closely with his head lowered, as if by listening he

were breaking an order. “What makes you so wary about

it?” asked Leni. K. had the feeling he was listening to

a contrived dialogue that had been repeated many times,

that would be repeated many times more, and that for

Block alone it would never lose its freshness. “What has

his behaviour been like today?” asked the lawyer instead

of an answer. Before Leni said anything she looked down

at Block and watched him a short while as he raised his

hands towards her and rubbed them together imploringly.

Finally she gave a serious nod, turned back to the lawyer

and said, “He’s been quiet and industrious.” This was an

elderly businessman, a man whose beard was long, and

he was begging a young girl to speak on his behalf. Even

if there was some plan behind what he did, there was

nothing that could reinstate him in the eyes of his fellow

man. K. could not understand how the lawyer could have

thought this performance would win him over. Even if he

did not have nothing earlier to make him want to leave

then this scene would have done so. It was almost humili-

ating even for the onlooker. So these were the lawyer’s

methods, which K. fortunately had not been exposed to

for long, to let the client forget about the whole world

and leave him with nothing but the hope of reaching the

end of his trial by this deluded means. He was no longer

a client, he was the lawyer’s dog. If the lawyer had or-

dered him to crawl under the bed as if it were a kennel

and to bark out from under it, then he would have done so

with enthusiasm. K. listened to all of this, testing it and

thinking it over as if he had been given the task of closely

observing everything spoken here, inform a higher office

about it and write a report. “And what has he been do-

ing all day?” asked the lawyer. “I kept him locked in

the maid’s room all day,” said Leni, “so that he wouldn’t

stop me doing my work. That’s where he usually stays.

From time to time I looked in through the spyhole to see

was he was doing, and each time he was kneeling on the

bed and reading the papers you gave him, propped up on

the window sill. That made a good impression on me; as

the window only opens onto an air shaft and gives hardly

any light. It showed how obedient he is that he was even

reading in those conditions.” “I’m pleased to hear it,” said

the lawyer. “But did he understand what he was read-

ing?” While this conversation was going on, Block con-

tinually moved his lips and was clearly formulating the

answers he hoped Leni would give. “Well I can’t give

you any certain answer to that of course,” said Leni, “but

I could see that he was reading thoroughly. He spent all

day reading the same page, running his finger along the

lines. Whenever I looked in on him he sighed as if this

reading was a lot of work for him. I expect the papers

you gave him were very hard to understand.” “Yes,” said

the lawyer, “they certainly are that. And I really don’t

think he understood anything of them. But they should

at least give him some inkling of just how hard a strug-

gle it is and how much work it is for me to defend him.

And who am I doing all this hard work for? I’m doing it—
it’s laughable even to say it—I’m doing it for Block.

He ought to realise what that means, too. Did he study

without a pause?” “Almost without a pause,” answered

Leni. “Just the once he asked me for a drink of water, so

I gave him a glassful through the window. Then at eight

o’clock I let him out and gave him something to eat.”

Block glanced sideways at K., as if he were being praised

and had to impress K. as well. He now seemed more

optimistic, he moved more freely and rocked back and

forth on his knees. This made his astonishment all the

more obvious when he heard the following words from

the lawyer: “You speak well of him,” said the lawyer,

“but that’s just what makes it difficult for me. You see,

the judge did not speak well of him at all, neither about

Block nor about his case.” “Didn’t speak well of him?”

asked Leni. “How is that possible?” Block looked at her

with such tension he seemed to think that although the

judge’s words had been spoken so long before she would

be able to change them in his favour. “Not at all,” said

the lawyer. “In fact he became quite cross when I started to

talk about Block to him. ‘Don’t talk to me about Block,’

he said. ‘He is my client,’ said I. ‘You’re letting him

abuse you,’ he said. ‘I don’t think his case is lost yet,’

said I. ‘You’re letting him abuse you,’ he repeated. ‘I
don’t think so,’ said I. ‘Block works hard in his case and

always knows where it stands. He practically lives with

me so that he always knows what’s happening. You don’t

always find such enthusiasm as that. He’s not very pleas-
The Trial: Chapter 9

Chapter 9: In the Cathedral

A very important Italian business contact of the bank had come to visit the city for the first time and K. was given the task of showing him some of its cultural sights. At any other time he would have seen this job as an honour but now, when he was finding it hard even to maintain his current position in the bank, he accepted it only with reluctance. Every hour that he could not be in the office was a cause of concern for him, he was no longer able to make use of his time in the office anything like as well as he had previously, he spent many hours merely pretending to do important work, but that only increased his anxiety about not being in the office. Then he sometimes thought he saw the deputy director, who was always watching, come into K.’s office, sit at his desk, look through his papers, receive clients who had almost become old friends of K., and lure them away from him, perhaps he even discovered mistakes, mistakes that seemed to threaten K. from a thousand directions when he was at work now, and which he could no longer avoid. So now, if he was ever asked to leave the office on business or even needed to make a short business trip, however much an honour it seemed—and tasks of this sort happened to have increased substantially recently—there was always the suspicion that they wanted to get him out of his office for a while and check his work, or at least the idea that they thought he was dispensable. It would not have been difficult for him to turn down most of these jobs, but he did not dare to do so because, if his fears had the slightest foundation, turning the jobs down would have been an acknowledgement of them. For this reason, he never demurred from accepting them, and even when he was asked to go on a tiring business trip lasting two days he said nothing about having to go out in the rainy autumn weather when he had a severe chill, just in order to avoid the risk of not being asked to go. When, with a raging headache, he arrived back from this trip he learned that he had been chosen to accompany the Italian business contact the following day. The temptation for once to turn the job down was very great, especially as it had no direct connection with business, but there was no denying that social obligations towards this business contact were in themselves important enough, only not for K., who knew quite well that he needed some successes at work if he was to maintain his position there and that, if he failed in that, it would not help him even if this Italian somehow found him quite charming; he did not want to be removed from his workplace for even one day, as the fear of not being allowed back in was too great, he knew full well that the fear was exaggerated but it still made him anxious. However, in this case it was almost impossible to think of an acceptable excuse, his knowledge of Italian was not great but still good enough;
the deciding factor was that K. had earlier known a little about art history and this had become widely known around the bank in extremely exaggerated form, and that K. had been a member of the Society for the Preservation of City Monuments, albeit only for business reasons. It was said that this Italian was an art lover, so the choice of K. to accompany him was a matter of course.

It was a very rainy and stormy morning when K., in a foul temper at the thought of the day ahead of him, arrived early at seven o’clock in the office so that he could at least do some work before his visitor would prevent him. He had spent half the night studying a book of Italian grammar so that he would be somewhat prepared and was very tired; his desk was less attractive to him than the window where he had spent far too much time sitting of late, but he resisted the temptation and sat down to his work. Unfortunately, just then the servitor came in and reported that the director had sent him to see whether the chief clerk was already in his office; if he was, then would he please be so kind as to come to his reception room as the gentleman from Italy was already there. “I’ll come straight away,” said K. He put a small dictionary in his pocket, took a guide to the city’s tourist sites under his arm that he had compiled for strangers, and went through the deputy director’s office into that of the director. He was glad he had come into the office so early and was able to be of service immediately, nobody could seriously have expected that of him. The deputy director’s office was, of course, still as empty as the middle of the night, the servitor had probably been asked to summon him too but without success. As K. entered the reception room two men stood up from the deep armchairs where they had been sitting. The director gave him a friendly smile, he was clearly very glad that K. was there, he immediately introduced him to the Italian who shook K.’s hand vigorously and joked that somebody was an early riser. K. did not quite understand whom he had in mind, tried to cope with this dialect of Italian, he joined in with this conversation in a way that was so adroit and unobtrusive that he seemed to be adding no more than minor comments, whereas in fact he was swiftly and patiently understanding it was entirely his decision — just see the cathedral and to do so thoroughly. He was extremely pleased to be accompanied by someone who was so learned and so pleasant — by this he meant K., who was occupied not with listening to the Italian but the director — and asked if he would be so kind, if the time was suitable, to meet him in the cathedral in two hours’ time at about ten o’clock. He hoped he would certainly be able to be there at that time. K. made an appropriate reply, the Italian shook first the director’s hand and then K.’s, then the director’s again and went to the door, half turned to the two men who followed him and continuing to talk without a break. K. remained together with the director for a short while, although the director looked especially unhappy today. He thought he needed to apologise to K. for not only understood but also spoke, although K. ought to have foreseen this as the Italian came from the south of his country where the director had also spent several years. Whatever the cause, K. realised that the possibility of communicating with the Italian had been largely taken from him, even his French was difficult to understand, and his moustache concealed the movements of his lips which might have offered some help in understanding what he said. K. began to anticipate many difficulties, he gave up trying to understand what the Italian said — with the director there, who could understand him so easily, it would have been pointless effort — and for the time being did no more than scowl at the Italian as he relaxed sitting deep but comfortable in the armchair, as he frequently pulled at his short, sharply tailored jacket and at one time lifted his arms in the air and moved his hands freely to try and depict something that K. could not grasp, even though he was leaning forward and did not let the hands out of his sight. K. had nothing to occupy himself but mechanically watch the exchange between the two men and his tiredness finally made itself felt, to his alarm, although fortunately in good time, he once caught himself nearly getting up, turning round and leaving. Eventually the Italian looked at the clock and jumped up. After taking his leave from the director he turned to K., pressing himself so close to him that K. had to push his chair back just so that he could move. The director had, no doubt, seen the anxiety in K.’s eyes as he tried to cope with this dialect of Italian, he joined in with this conversation in a way that was so adroit and unobtrusive that he seemed to be adding no more than minor comments, whereas in fact he was swiftly and patiently breaking into what the Italian said so that K. could understand. K. learned in this way that the Italian first had a few business matters to settle, that he unfortunately had only a little time at his disposal, that he certainly did not intend to rush round to see every monument in the city, that he would much rather — at least as long as K. would agree, it was entirely his decision — just see the cathedral and to do so thoroughly. He was extremely pleased to be accompanied by someone who was so learned and so pleasant — by this he meant K., who was occupied not with listening to the Italian but the director — and asked if he would be so kind, if the time was suitable, to meet him in the cathedral in two hours’ time at about ten o’clock. He hoped he would certainly be able to be there at that time. K.
something and told him—they were standing intimately close together—he had thought at first he would accompany the Italian himself, but then—he gave no more precise reason than this—then he decided it would be better to send K. with him. He should not be surprised if he could not understand the Italian at first, he would be able to very soon, and even if he really could not understand very much he said it was not so bad, as it was really not so important for the Italian to be understood. And anyway, K.’s knowledge of Italian was surprisingly good, the director was sure he would get by very well. And with that, it was time for K. to go. He spent the time still remaining to him with a dictionary, copying out obscure words he would need to guide the Italian around the cathedral. It was an extremely irksome task, servitors brought him the mail, bank staff came with various queries and, when they saw that K. was busy, stood by the door and did not go away until he had listened to them, the deputy director did not miss the opportunity to disturb K. and came in frequently, took the dictionary from his hand and flicked through its pages, clearly for no purpose, when the door to the ante-room opened even clients would appear from the half darkness and bow timidly to him—they wanted to attract his attention but were not sure whether he had seen them—all this activity was circling around K. with him at its centre while he compiled the list of words he would need, then looked them up in the dictionary, then wrote them out, then practised their pronunciation and finally tried to learn them by heart. The good intentions he had had earlier, though, seemed to have left him completely, it was the Italian who had caused him all this effort and sometimes he became so angry with him that he buried the dictionary under some papers firmly intending to do no more preparation, but then he realised he could not walk up and down in the cathedral with the Italian without saying a word, so, with an even greater rage, he pulled the dictionary back out again.

At exactly half past nine, just when he was about to leave, there was a telephone call for him. Leni wished him good morning and asked how he was, K. thanked her hurriedly and told her it was impossible for him to talk now as he had to go to the cathedral. “To the cathedral?” asked Leni. “Yes, to the cathedral.” “What do you have to go to the cathedral for?” said Leni. K. tried to explain it to her briefly, but he had hardly begun when Leni suddenly said, “They’re harassing you.” One thing that K. could not bear was pity that he had not wanted or expected, he took his leave of her with two words, but as he put the receiver back in its place he said, half to himself and half to the girl on the other end of the line who could no longer hear him, “Yes, they’re harassing me.”

By now the time was late and there was almost a danger he would not be on time. He took a taxi to the cathedral, at the last moment he had remembered the album that he had had no opportunity to give to the Italian earlier and so took it with him now. He held it on his knees and drummed impatiently on it during the whole journey. The rain had eased off slightly but it was still damp chilly and dark, it would be difficult to see anything in the cathedral but standing about on cold flagstones might make K.’s chill much worse. The square in front of the cathedral was quite empty, K. remembered how even as a small child he had noticed that nearly all the houses in this narrow square had the curtains at their windows closed most of the time, although today, with the weather like this, it was more understandable. The cathedral also seemed quite empty, of course no-one would think of going there on a day like this. K. hurried along both the side naves but saw no-one but an old woman who, wrapped up in a warm shawl, was kneeling at a picture of the Virgin Mary and staring up at it. Then, in the distance, he saw a church official who limped away through a doorway in the wall. K. had arrived on time, it had struck ten just as he was entering the building, but the Italian still was not there. K. went back to the main entrance, stood there indecisively for a while, and then walked round the cathedral in the rain in case the Italian was waiting at another entrance. He was nowhere to be found. Could the director have misunderstood what time they had agreed on? How could anyone understand someone like that properly anyway? Whatever had happened, K. would have to wait for him for at least half an hour. As he was tired he wanted to sit down, he went back inside the cathedral, he found something like a small carpet on one of the steps, he moved it with his foot to a nearby pew, wrapped himself up tighter in his coat, put the collar up and sat down. To pass the time he opened the album and flicked through the pages a little but soon had to give up as it became so dark that when he looked up he could hardly make out anything in the side naves next to him.

In the distance there was a large triangle of candles flickering on the main altar, K. was not certain whether he had seen them earlier. Perhaps they had only just been lit. Church staff creep silently as part of their job, you don’t notice them. When K. happened to turn round he also saw a tall, stout candle attached to a column not far behind him. It was all very pretty, but totally inadequate to illuminate the pictures which were usually left in the darkness of the side altars, and seemed to make the darkness all the deeper. It was discourteous of the Italian not to come but it was also sensible of him, there would have been nothing to see, they would have had to content themselves with seeking out a few pictures with K.’s electric pocket torch and looking at them one small part at a time. K. went over to a nearby side chapel to see what they could have hoped for, he went up a few steps.
to a low marble railing and leant over it to look at the altar picture by the light of his torch. The eternal light hung disturbingly in front of it. The first thing that K. partly saw and partly guessed at was a large knight in armour who was shown at the far edge of the painting. He was leaning on his sword that he had stuck into the naked ground in front of him where only a few blades of grass grew here and there. He seemed to be paying close attention to something that was being played out in front of him. It was astonishing to see how he stood there without going any closer. Perhaps it was his job to stand guard. It was a long time since K. had looked at any pictures and he studied the knight for a long time even though he had continually to blink as he found it difficult to bear the green light of his torch. Then when he moved the light to the other parts of the picture he found an interment of Christ shown in the usual way, it was also a comparatively new painting. He put his torch away and went back to his place.

There seemed to be no point in waiting for the Italian any longer, but outside it was certainly raining heavily, and as it was not so cold in the cathedral as K. had expected he decided to stay there for the time being. Close by him was the great pulpit, there were two plain golden crosses attached to its little roof which were lying almost flat and whose tips crossed over each other. The outside of the pulpit’s balustrade was covered in green foliage which continued down to the column supporting it, little angels could be seen among the leaves, some of them lively and some of them still. K. walked up to the pulpit and examined it from all sides, its stonework had been sculpted with great care, it seemed as if the foliage had trapped a deep darkness between and behind its leaves and held it there prisoner, K. lay his hand in one of these gaps and cautiously felt the stone, until then he had been totally unaware of this pulpit’s existence. Then K. happened to notice one of the church staff standing behind the next row of pews, he wore a loose, creased, black cassock, he held a snuff box in his left hand and he was watching K. Now what does he want? thought K. Do I seem suspicious to him? Does he want a tip? But when the man in the cassock saw that K. had noticed him he raised his right hand, a pinch of snuff still held between two fingers, and pointed in some vague direction. It was almost impossible to understand what this behaviour meant, K. waited a while longer but the man in the cassock did not stop gesturing with his hand and even augmented it by nodding his head. “Now what does he want?” asked K. quietly, he did not dare call out loud here; but then he drew out his purse and pushed his way through the nearest pews to reach the man. He, however, immediately gestured to turn down this offer, shrugged his shoulders and limped away. As a child K. had imitated riding on a horse with the same sort of movement as this limp. “This old man is like a child,” thought K., “he doesn’t have the sense for anything more than serving in a church. Look at the way he stops when I stop, and how he waits to see whether I’ll continue.” With a smile, K. followed the old man all the way up the side nave and almost as far as the main altar, all this time the old man continued to point at something but K. deliberately avoided looking round, he was only pointing in order to make it harder for K. to follow him. Eventually, K. did stop following, he did not want to worry the old man too much, and he also did not want to frighten him away completely in case the Italian turned up after all.

When he entered the central nave to go back to where he had left the album, he noticed a small secondary pulpit on a column almost next to the stalls by the altar where the choir sat. It was very simple, made of plain white stone, and so small that from a distance it looked like an empty niche where the statue of a saint ought to have been. It certainly would have been impossible for the priest to take a full step back from the balustrade, and, although there was no decoration on it, the top of the pulpit curved in exceptionally low so that a man of average height would not be able stand upright and would have to remain bent forward over the balustrade. In all, it looked as if it had been intended to make the priest suffer, it was impossible to understand why this pulpit would be needed as there were also the other ones available which were large and so artistically decorated.

And K. would certainly not have noticed this little pulpit if there had not been a lamp fastened above it, which usually meant there was a sermon about to be given. So was a sermon to be given now? In this empty church? K. looked down at the steps which, pressed close against the column, led up to the pulpit. They were so narrow they seemed to be there as decoration on the column rather than for anyone to use. But under the pulpit—K. grinned in astonishment—there really was a priest standing with his hand on the handrail ready to climb the steps and looking at K. Then he nodded very slightly, so that K. crossed himself and genuflected as he should have done earlier. With a little swing, the priest went up into the pulpit with short fast steps. Was there really a sermon about to begin? Maybe the man in the cassock had not been really so demented, and had meant to lead K.’s way to the preacher, which in this empty church would have been very necessary. And there was also, somewhere in front of a picture of the Virgin Mary, an old woman who should have come to hear the sermon. And if there was to be a sermon why had it not been introduced on the organ? But the organ remained quiet and merely looked out weakly from the darkness of its great height.

K. now considered whether he should leave as quickly
as possible, if he did not do it now there would be no chance of doing so during the sermon and he would have to stay there for as long as it lasted, he had lost so much time when he should have been in his office, there had long been no need for him to wait for the Italian any longer, he looked at his watch, it was eleven. But could there really be a sermon given? Could K. constitute the entire congregation? How could he when he was just a stranger who wanted to look at the church? That, basically, was all he was. The idea of a sermon, now, at eleven o’clock, on a workday, in hideous weather, was nonsense. The priest—there was no doubt that he was a priest, a young man with a smooth, dark face—was clearly going up there just to put the lamp out after somebody had lit it by mistake.

But there had been no mistake, the priest seemed rather to check that the lamp was lit and turned it a little higher, then he slowly turned to face the front and leant down on the balustrade gripping its angular rail with both hands. He stood there like that for a while and, without turning his head, looked around. K. had moved back a long way and leant his elbows on the front pew. Somewhere in the church—he could not have said exactly where—he could make out the man in the cassock hunched under his bent back and at peace, as if his work were completed. In the cathedral it was now very quiet! But K. would have to disturb that silence, he had no intention of staying there; if it was the priest’s duty to preach at a certain time regardless of the circumstances then he could, and he could do it without K.’s taking part, and K.’s presence would do nothing to augment the effect of it. So K. began slowly to move, felt his way on tiptoe along the pew, arrived at the broad aisle and went along it without being disturbed, except for the sound of his steps, however light, which rang out on the stone floor and resounded from the vaulting, quiet but continuous at a repeating, regular pace. K. felt slightly abandoned as, probably observed by the priest, he walked by himself between the empty pews, and the size of the cathedral seemed to be just at the limit of what a man could bear. When he arrived back at where he had been sitting he did not hesitate but simply reached out for the album he had left there and took it with him. He had nearly left the area covered by pews and was close to the empty space between himself and the exit when, for the first time, he heard the voice of the priest. A powerful and experienced voice. It pierced through the reaches of the cathedral ready waiting for it! But the priest was not calling out to the congregation, his cry was quite unambiguous and there was no escape from it, he called “Josef K.!”

K. stood still and looked down at the floor. In theory he was still free, he could have carried on walking, through one of three dark little wooden doors not far in front of him and away from there. It would simply mean he had not understood, or that he had understood but chose not to pay attention to it. But if he once turned round he would be trapped, then he would have acknowledged that he had understood perfectly well, that he really was the Josef K. the priest had called to and that he was willing to follow. If the priest had called out again K. would certainly have carried on out the door, but everything was silent as K. also waited, he turned his head slightly as he wanted to see what the priest was doing now. He was merely standing in the pulpit as before, but it was obvious that he had seen K. turn his head. If K. did not now turn round completely it would have been like a child playing hide and seek. He did so, and the priest beckoned him with his finger. As everything could now be done openly he ran—because of curiosity and the wish to get it over with—with long flying leaps towards the pulpit. At the front pews he stopped, but to the priest he still seemed too far away, he reached out his hand and pointed sharply down with his finger to a place immediately in front of the pulpit. And K. did as he was told, standing in that place he had to bend his head a long way back just to see the priest. “You are Josef K.,” said the priest, and raised his hand from the balustrade to make a gesture whose meaning was unclear. “Yes,” said K., he considered how freely he had always given his name in the past, for some time now it had been a burden to him, now there were people who knew his name whom he had never seen before, it had been so nice first to introduce yourself and only then for people to know who you were. “You have been accused,” said the priest, especially gently. “Yes,” said K., “so I have been informed.” “Then you are the one I am looking for,” said the priest. “I am the prison chaplain.” “I see,” said K. “I had you summoned here,” said the priest, “because I wanted to speak to you.” “I knew nothing of that,” said K. “I came here to show the cathedral to a gentleman from Italy.” “That is beside the point,” said the priest. “What are you holding in your hand? Is it a prayer book?” “No,” answered K., “it’s an album of the city’s tourist sights.” “Put it down,” said the priest. K. thrust it away with such force that it flapped open and rolled across the floor, tearing its pages. “Do you know your case is going badly?” asked the priest. “That’s how it seems to me too,” said K. “I’ve expended a lot of effort on it, but so far with no result. Although I do still have some documents to submit.” “How do you imagine it will end?” asked the priest. “At first I thought it was bound to end well,” said K., “but now I have my doubts about it. I don’t know how it will end. Do you know?” “I don’t,” said the priest, “but I fear it will end badly. You are considered guilty. Your case will probably not even go beyond a minor court. Provisionally at least, your guilt is seen as proven.” “But I’m not guilty,” said
K., “there’s been a mistake. How is it even possible for someone to be guilty. We’re all human beings here, one like the other.” “That is true,” said the priest, “but that is how the guilty speak.” “Do you presume I’m guilty too?” asked K. “I make no presumptions about you,” said the priest. “I thank you for that,” said K. “but everyone else involved in these proceedings has something against me and presumes I’m guilty. They even influence those who aren’t involved. My position gets harder all the time.”

“You don’t understand the facts,” said the priest, “the verdict does not come suddenly, proceedings continue until a verdict is reached gradually.” “I see,” said K., lowering his head, “What do you intend to do about your case next?” asked the priest. “I still need to find help,” said K., raising his head to see what the priest thought of this. “There are still certain possibilities I haven’t yet made use of.” “You look for too much help from people you don’t know,” said the priest disapprovingly, “and especially from women. Can you really not see that’s not the help you need?” “Sometimes, in fact quite often, I could believe you’re right,” said K., “but not always. Women have a lot of power. If I could persuade some of the women I know to work together with me then I would be certain to succeed. Especially in a court like this that seems to consist of nothing but woman-chasers. Show the examining judge a woman in the distance and he’ll run right over the desk, and the accused, just to get to her as soon as he can.” The priest lowered his head down to the balustrade, only now did the roof over the pulpit seem to press him down. What sort of dreadful weather could it be outside? It was no longer just a dull day, it was deepest night. None of the stained glass in the main window shed even a flicker of light on the darkness of the walls. And this was the moment when the man in the cassock chose to put out the candles on the main altar, one by one. “Are you cross with me?” asked K. “Maybe you don’t know what sort of court it is you serve.” He received no answer. “Well, it’s just my own experience,” said K. Above him there was still silence. “I didn’t mean to insult you,” said K. At that, the priest screamed down at K.: “Can you not see two steps in front of you?” He shouted in anger, but it was also the scream of one who sees another fall and, shocked and without thinking, screams against his own will.

The two men, then, remained silent for a long time. In the darkness beneath him, the priest could not possibly have seen K. distinctly, although K. was able to see him clearly by the light of the little lamp. Why did the priest not come down? He had not given a sermon, he had only told K. a few things which, if he followed them closely, would probably cause him more harm than good. But the priest certainly seemed to mean well, it might even be possible, if he would come down and cooperate with him, it might even be possible for him to obtain some acceptable piece of advice that could make all the difference, it might, for instance, be able to show him not so much to influence the proceedings but how to break free of them, how to evade them, how to live away from them. K. had to admit that this was something he had had on his mind quite a lot of late. If the priest knew of such a possibility he might, if K. asked him, let him know about it, even though he was part of the court himself and even though, when K. had criticised the court, he had held down his gentle nature and actually shouted at K.

“Would you not like to come down here?” asked K. “If you’re not going to give a sermon come down here with me.” “Now I can come down,” said the priest, perhaps he regretted having shouted at K. As he took down the lamp from its hook he said, “to start off with I had to speak to you from a distance. Otherwise I’m too easily influenced and forget my duty.”

K. waited for him at the foot of the steps. While he was still on one of the higher steps as he came down them the priest reached out his hand for K. to shake. “Can you spare me a little of your time?” asked K. “As much time as you need,” said the priest, and passed him the little lamp for him to carry. Even at close distance the priest did not lose a certain solemnity that seemed to be part of his character. “You are very friendly towards me,” said K., as they walked up and down beside each other in the darkness of one of the side naves. “That makes you an exception among all those who belong to the court. I can trust you more than any of the others I’ve seen. I can speak openly with you.” “Don’t fool yourself,” said the priest. “How would I be fooling myself?” asked K. “You fool yourself in the court,” said the priest, “it talks about this self-deceit in the opening paragraphs to the law. In front of the law there is a doorkeeper. A man from the countryside comes up to the door and asks for entry. But the doorkeeper says he can’t let him in to the law right now. The man thinks about this, and then he asks if he’ll be able to go in later on. ‘That’s possible,’ says the doorkeeper, ‘but not now’. The gateway to the law is open as it always is, and the doorkeeper has stepped to one side, so the man bends over to try and see in. When the doorkeeper notices this he laughs and says, ‘If you’re tempted give it a try, try and go in even though I say you can’t. Careful though: I’m powerful. And I’m only the lowliest of all the doormen. But there’s a doorkeeper for each of the rooms and each of them is more powerful than the last. It’s more than I can stand just to look at the third one.’ The man from the country had not expected difficulties like this, the law was supposed to be accessible for anyone at any time, he thinks, but now he looks more closely at the doorkeeper in his fur coat, sees
his big hooked nose, his long thin tartar-beard, and he
decides it’s better to wait until he has permission to en-
ter. The doorkeeper gives him a stool and lets him sit
down to one side of the gate. He sits there for days and
years. He tries to be allowed in time and again and tires
the doorkeeper with his requests. The doorkeeper often
questions him, asking about where he’s from and many
other things, but these are disinterested questions such as
great men ask, and he always ends up by telling him he
still can’t let him in. The man had come well equipped
for his journey, and uses everything, however valuable,
to bribe the doorkeeper. He accepts everything, but as he
does so he says, ‘I’ll only accept this so that you don’t
think there’s anything you’ve failed to do’. Over many
years, the man watches the doorkeeper almost without a
break. He forgets about the other doormen, and begins to
think this one is the only thing stopping him from gain-
ing access to the law. Over the first few years he curses
his unhappy condition out loud, but later, as he becomes
old, he just grumbles to himself. He becomes senile, and
as he has come to know even the fleas in the doorkeeper’s
fur collar over the years that he has been studying him he
even asks them to help him and change the doorkeeper’s
mind. Finally his eyes grow dim, and he no longer knows
whether it’s really getting darker or just his eyes that are
deceiving him. But he seems now to see an inextinguish-
able light begin to shine from the darkness behind the
door. He doesn’t have long to live now. Just before he
dies, he brings together all his experience from all this
time into one question which he has still never put to the
doormen and how not even he could bear the sight of
his big hooked nose, his long thin tartar-beard, and he
makes you think he did his duty?” asked K., “He didn’t.
It might have been his duty to keep everyone else away,
but this man is who the door was intended for and he
ought to have let him in.” “You’re not paying enough
attention to what was written and you’re changing the
story,” said the priest. “According to the story, there are
two important things that the doorkeeper explains about
access to the law, one at the beginning, one at the end.
At one place he says he can’t allow him in now, and
at the other he says this entrance was intended for him
alone. If one of the statements contradicted the other you
would be right and the doorkeeper would have cheated
the man from the country. But there is no contradiction.
On the contrary, the first statement even hints at the sec-
ond. You could almost say the doorkeeper went beyond
his duty in that he offered the man some prospect of be-
ing admitted in the future. Throughout the story, his duty
seems to have been merely to turn the man away, and
there are many commentators who are surprised that the
doorkeeper offered this hint at all, as he seems to love ex-
actitude and keeps strict guard over his position. He stays
at his post for many years and doesn’t close the gate until
the very end, he’s very conscious of the importance of his
service, as he says, ‘I’m powerful,’ he has respect for his
superiors, as he says, ‘I’m only the lowliest of the door-
men’, he’s not talkative, as through all these years the
only questions he asks are ‘disinterested’, he’s not cor-
ruptible, as when he’s offered a gift he says, ‘I’ll only ac-
cept this so that you don’t think there’s anything you’ve
failed to do,’ as far as fulfilling his duty goes he can be
neither ruffled nor begged, as it says about the man that,
‘he tires the doorkeeper with his requests’, even his ex-
ternal appearance suggests a pedantic character, the big
hooked nose and the long, thin, black tartar-beard. How
could any doorkeeper be more faithful to his duty? But
in the doorkeeper’s character there are also other features
which might be very useful for those who seek entry to
the law, and when he hinted at some possibility in the fu-
ture it always seemed to make it clear that he might even
go beyond his duty. There’s no denying he’s a little sim-
ple minded, and that makes him a little conceited. Even
if all he said about his power and the power of the other
doorkn赛事 and how not even he could bear the sight of
them—I say even if all these assertions are right, the way
he makes them shows that he’s too simple and arrogant
to understand properly. The commentators say about this
that, ’correct understanding of a matter and a misunder-
standing of the same matter are not mutually exclusive’.
Whether they’re right or not, you have to concede that
his simplicity and arrogance, however little they show,
do weaken his function of guarding the entrance, they
are defects in the doorkeeper’s character. You also have
to consider that the doorkeeper seems to be friendly by
nature, he isn’t always just an official. He makes a joke right at the beginning, in that he invites the man to enter at the same time as maintaining the ban on his entering, and then he doesn’t send him away but gives him, as it says in the text, a stool to sit on and lets him stay by the side of the door. The patience with which he puts up with the man’s requests through all these years, the little questioning sessions, accepting the gifts, his politeness when he puts up with the man cursing his fate even though it was the doorkeeper who caused that fate—all these things seem to want to arouse our sympathy. Not every doorkeeper would have behaved in the same way. And finally, he lets the man beckon him and he bends deep down to him so that he can put his last question. There’s no more than some slight impatience—the doorkeeper knows everything’s come to its end—shown in the words, ‘You’re insatiable’. There are many commentators who go even further in explaining it in this way and think the words, ‘you’re insatiable’ are an expression of friendly admiration, albeit with some condescension. However you look at it the figure of the doorkeeper comes out differently from how you might think.” “You know the story better than I do and you’ve known it for longer,” said K. They were silent for a while. And then K. said, “So you think the man was not cheated, do you?” “Don’t get me wrong,” said the priest, “I’m just pointing out the different opinions about it. You shouldn’t pay too much attention to people’s opinions. The text cannot be altered, and the various opinions are often no more than an expression of despair over it. There’s even one opinion which says it’s the doorkeeper who’s been cheated.” “That does seem to take things too far,” said K. “How can they argue the doorkeeper has been cheated?” “Their argument,” answered the priest, “is based on the simplicity of the doorkeeper. They say the doorkeeper doesn’t know the inside of the law, only the way into it where he just walks up and down. They see his ideas of what’s inside the law as rather childish, and suppose he’s afraid of what he wants to make the man frightened of. Yes, he’s more afraid of it than the man, as the man wants nothing but to go inside the law, even after he’d heard about the terrible doormen there, in contrast to the doorkeeper who doesn’t want to go in, or at least we don’t hear anything about it. On the other hand, there are those who say he must have already been inside the law as he has been taken on into its service and that could only have been done inside. That can be countered by supposing he could have been given the job of doorkeeper by somebody calling out from inside, and that he can’t have gone very far inside as he couldn’t bear the sight of the third doorkeeper. Nor, through all those years, does the story say the doorkeeper told the man anything about the inside, other than his comment about the other doorkeepers. He could have been forbidden to do so, but he hasn’t said anything about that either. All this seems to show he doesn’t know anything about what the inside looks like or what it means, and that that’s why he’s being deceived. But he’s also being deceived by the man from the country as he’s this man’s subordinate and doesn’t know it. There’s a lot to indicate that he treats the man as his subordinate, I expect you remember, but those who hold this view would say it’s very clear that he really is his subordinate. Above all, the free man is superior to the man who has to serve another. Now, the man really is free; he can go wherever he wants, the only thing forbidden to him is entry into the law and, what’s more, there’s only one man forbidding him to do so—the doorkeeper. If he takes the stool and sits down beside the door and stays there all his life he does this of his own free will, there’s nothing in the story to say he was forced to do it. On the other hand, the doorkeeper is kept to his post by his employment, he’s not allowed to go away from it and it seems he’s not allowed to go inside either, not even if he wanted to. Also, although he’s in the service of the law he’s only there for this one entrance, therefore he’s there only in the service of this one man who the door’s intended for. This is another way in which he’s his subordinate. We can take it that he’s been performing this somewhat empty service for many years, through the whole of a man’s life, as it says that a man will come, that means someone old enough to be a man. That means the doorkeeper will have to wait a long time before his function is fulfilled, he will have to wait for as long as the man liked, who came to the door of his own free will. Even the end of the doorkeeper’s service is determined by when the man’s life ends, so the doorkeeper remains his subordinate right to the end. And it’s pointed out repeatedly that the doorkeeper seems to know nothing of any of this, although this is not seen as anything remarkable, as those who hold this view see the doorkeeper as deluded in a way that’s far worse, a way that’s to do with his service. At the end, speaking about the entrance he says, ‘Now I’ll go and close it’, although at the beginning of the story it says the door to the law is open as it always is, but if it’s always open—always—that means it’s open independently of the lifespan of the man it’s intended for, and not even the doorkeeper will be able to close it. There are various opinions about this, some say the doorkeeper was only answering a question or showing his devotion to duty or, just when the man was in his last moments, the doorkeeper wanted to cause him regret and sorrow. There are many who agree that he wouldn’t be able to close the door. They even believe, at the end at least, the doorkeeper is aware, deep down, that he’s the man’s subordinate, as the man sees the light that shines out of the entry to the law whereas the doorkeeper would
the priest, K., who had been repeating some parts of
the priest’s explanation to himself in a whisper. “It is well
substantiated, and now I too think the doorkeeper must
have been deceived. Although that does not mean I’ve
abandoned what I thought earlier as the two versions are,
to some extent, not incompatible. It’s not clear whether
the doorkeeper sees clearly or is deceived. I said the man
had been cheated. If the doorkeeper understands clearly,
then there could be some doubt about it, but if the door-
keeper has been deceived then the man is bound to be-
lieve the same thing. That would mean the doorkeeper
is not a cheat but so simple-minded that he ought to be
dismissed from his job immediately; if the doorkeeper
is mistaken it will do him no harm but the man will be
harmed immensely.” “There you’ve found another opin-
ion,” said the priest, “as there are many who say the story
doesn’t give anyone the right to judge the doorkeeper.
However he might seem to us he is still in the service of
the law, so he belongs to the law, so he’s beyond what
man has a right to judge. In this case we can’t believe
the doorkeeper is the man’s subordinate. Even if he has
to stay at the entrance into the law his service makes him
incomparably more than if he lived freely in the world.
The man has come to the law for the first time and the
doorkeeper is already there. He’s been given his position
by the law, to doubt his worth would be to doubt the law.”
“I can’t say I’m in complete agreement with this view,”
said K. shaking his head, “as if you accept it you’ll have
to accept that everything said by the doorkeeper is true.
But you’ve already explained very fully that that’s not
possible.” “No,” said the priest. “you don’t need to ac-
cept everything as true, you only have to accept it as ne-
cessary.” “Depressing view,” said K. “The lie made into
the rule of the world.”

K. said that as if it were his final word but it was not his
conclusion. He was too tired to think about all the ramifi-
cations of the story, and the sort of thoughts they led him
into were not familiar to him, unrealistic things, things
better suited for officials of the court to discuss than for
him. The simple story had lost its shape, he wanted to
shake it off, and the priest who now felt quite compas-
sonate allowed this and accepted K.’s remarks without
comment, even though his view was certainly very dif-
ferent from K.’s.

In silence, they carried on walking for some time, K.
stayed close beside the priest without knowing where he
was. The lamp in his hand had long since gone out.
Once, just in front of him, he thought he could see the
statue of a saint by the glitter of the silver on it, although
it quickly disappeared back into the darkness. So that
he would not remain entirely dependent on the priest, K.

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asked him, “We’re now near the main entrance, are we?”
“No,” said the priest, “we’re a long way from it. Do you
already want to go?” K. had not thought of going un-
til then, but he immediately said, “Yes, certainly, I have
to go. I’m the chief clerk in a bank and there are peo-
ple waiting for me, I only came here to show a foreign
business contact round the cathedral.” “Alright,” said the
priest offering him his hand. “go then.” “But I can’t find
my way round in this darkness by myself,” said K. “Go to
your left as far as the wall,” said the priest, “then continue
alongside the wall without leaving it and you’ll find a
way out.” The priest had only gone a few paces from him,
but K. was already shouting loudly, “Please, wait!” “I’m
waiting,” said the priest. “Is there anything else you want
from me?” asked K. “No,” said the priest. “You were so
friendly to me earlier on,” said K., “and you explained
everything, but now you abandon me as if I were nothing
to you.” “You have to go,” said the priest. “Well, yes,”
said K., “you need to understand that.” “First, you need
to understand who I am,” said the priest. “You’re the
prison chaplain,” said K., and went closer to the priest, it
was not so important for him to go straight back to the
bank as he had made out, he could very well stay where
he was. “So that means I belong to the court,” said the
priest. “So why would I want anything from you? the
court doesn’t want anything from you. It accepts you
when you come and it lets you go when you leave.”

Chapter 10: End

The evening before K.’s thirty-first birthday—it was
about nine o’clock in the evening, the time when the
streets were quiet—two men came to where he lived. In
frock coats, pale and fat, wearing top hats that looked like
they could not be taken off their heads. After some brief
formalities at the door of the flat when they first arrived,
the same formalities were repeated at greater length at
K.’s door. He had not been notified they would be com-
ing, but K. sat in a chair near the door, dressed in black as
they were, and slowly put on new gloves which stretched
tightly over his fingers and behaved as if he were expect-
ning visitors. He immediately stood up and looked at the
gentlemen inquisitively. “You’ve come for me then, have
you?” he asked. The gentlemen nodded, one of them in-
dicated the other with the top hand now in his hand. K.
told them he had been expecting a different visitor. He
went to the window and looked once more down at the
dark street. Most of the windows on the other side of
the street were also dark already, many of them had the
curtains closed. In one of the windows on the same floor
where there was a light on, two small children could be
seen playing with each other inside a playpen, unable
to move from where they were, reaching out for each
other with their little hands. “Some ancient, unimportant actors—that’s what they’ve sent for me,” said K. to himself, and looked round once again to confirm this to himself. “They want to sort me out as cheaply as they can.” K. suddenly turned round to face the two men and asked, “What theatre do you play in?” “Theatre?” asked one of the gentlemen, turning to the other for assistance and pulling in the corners of his mouth. The other made a gesture like someone who was dumb, as if he were struggling with some organism causing him trouble. “You’re not properly prepared to answer questions,” said K. and went to fetch his hat.

As soon as they were on the stairs the gentlemen wanted to take K.’s arms, but K. said “Wait till we’re in the street, I’m not ill.” But they waited only until the front door before they took his arms in a way that K. had never experienced before. They kept their shoulders close behind his, did not turn their arms in but twisted them around the entire length of K.’s arms and took hold of his hands with a grasp that was formal, experienced and could not be resisted. K. was held stiff and upright between them, they formed now a single unit so that if any one of them had been knocked down all of them must have fallen. They formed a unit of the sort that normally can be formed only by matter that is lifeless.

Whenever they passed under a lamp K. tried to see his companions more clearly, as far as was possible when they were pressed so close together, as in the dim light of his room this had been hardly possible. “Maybe they’re tenors,” he thought as he saw their big double chins. The cleanliness of their faces disgusted him. He could see the hands that cleaned them, passing over the corners of their eyes, rubbing at their upper lips, scratching out the creases on those chins.

When K. noticed that, he stopped, which meant the others had to stop too; they were at the edge of an open square, devoid of people but decorated with flower beds. “Why did they send you, of all people!” he cried out, more a shout than a question. The two gentle men clearly knew no answer to give, they waited, their free arms hanging down, like nurses when the patient needs to rest. “I will go no further,” said K. as if to see what would happen. The gentlemen did not need to make any answer, it was enough that they did not loosen their grip on K. and tried to move him on, but K. resisted them. “I’ll soon have no need of much strength, I’ll use all of it now,” he thought. He thought of the flies that tear their legs off struggling to get free of the flypaper. “These gentlemen will have some hard work to do”.

Just then, Miss Brüstner came up into the square in front of them from the steps leading from a small street at a lower level. It was not certain that it was her, although the similarity was, of course, great. But it did not matter to K. whether it was certainly her anyway, he just became suddenly aware that there was no point in his resistance. There would be nothing heroic about it if he resisted, if he now caused trouble for these gentlemen, if in defending himself he sought to enjoy his last glimmer of life. He started walking, which pleased the gentlemen and some of their pleasure conveyed itself to him. Now they permitted him to decide which direction they took, and he decided to take the direction that followed the young woman in front of them, not so much because he wanted to catch up with her, nor even because he wanted to keep her in sight for as long as possible, but only so that he would not forget the reproach she represented for him. “The only thing I can do now,” he said to himself, and his thought was confirmed by the equal length of his own steps with the steps of the two others, “the only thing I can do now is keep my common sense and do what’s needed right till the end. I always wanted to go at the world and try and do too much, and even to do it for something that was not too cheap. That was wrong of me. Should I now show them I learned nothing from facing trial for a year? Should I go out like someone stupid? Should I let anyone say, after I’m gone, that at the start of the proceedings I wanted to end them, and that now that they’ve ended I want to start them again? I don’t want anyone to say that. I’m grateful they sent these unspeaking, uncomprehending men to go with me on this journey, and that it’s been left up to me to say what’s necessary”.

Meanwhile, the young woman had turned off into a side street, but K. could do without her now and let his companions lead him. All three of them now, in complete agreement, went over a bridge in the light of the moon, the two gentlemen were willing to yield to each little movement made by K. as he moved slightly towards the edge and directed the group in that direction as a single unit. The moonlight glittered and quivered in the water, which divided itself around a small island covered in a densely-piled mass of foliage and trees and bushes. Beneath them, now invisible, there were gravel paths with comfortable benches where K. had stretched himself out on many summer’s days. “I didn’t actually want to stop here,” he said to his companions, shamed by their compliance with his wishes. Behind K.’s back one of them seemed to quietly criticise the other for the misunderstanding about stopping, and then they went on. They went on up through several streets where policemen were walking or standing here and there; some in the distance and then some very close. One of them with a bushy moustache, his hand on the grip of his sword, seemed to have some purpose in approaching the group, which was hardly unsuspicious. The two gentlemen stopped, the policeman seemed about to open his mouth, and then
K. drove his group forcefully forward. Several times he looked back cautiously to see if the policeman was following; but when they had a corner between themselves and the policeman, K. began to run, and the two gentlemen, despite being seriously short of breath, had to run with him.

In this way they quickly left the built-up area and found themselves in the fields which, in this part of town, began almost without any transition zone. There was a quarry, empty and abandoned, near a building which was still like those in the city. Here the men stopped, perhaps because this had always been their destination or perhaps because they were too exhausted to run any further. Here they released their hold on K., who just waited in silence, and took their top hats off while they looked round the quarry and wiped the sweat off their brows with their handkerchiefs. The moonlight lay everywhere with the natural peace that is granted to no other light.

After exchanging a few courtesies about who was to carry out the next tasks—the gentlemen did not seem to have been allocated specific functions—one of them went to K. and took his coat, his waistcoat, and finally his shirt off him. K. made an involuntary shiver, at which the gentleman gave him a gentle, reassuring tap on the back. Then he carefully folded the things up as if they would still be needed, even if not in the near future. He did not want to expose K. to the chilly night air without moving though, so he took him under the arm and walked up and down with him a little way while the other gentleman looked round the quarry for a suitable place. When he had found it he made a sign and the other gentleman escorted him there. It was near the rockface, there was a stone lying there that had broken loose. The gentlemen sat K. down on the ground, leant him against the stone and settled his head down on the top of it. Despite all the effort they went to, and despite all the co-operation shown by K., his demeanour seemed very forced and hard to believe. So one of the gentlemen asked the other to grant him a short time while he put K. in position by himself, but even that did nothing to make it better. In the end they left K. in a position that was far from the best of the ones they had tried so far. Then one of the gentlemen opened his frock coat and from a sheath hanging on a belt stretched across his waistcoat he withdrew a long, thin, double-edged butcher’s knife which he held up in the light to test its sharpness. The repulsive courtesies began once again, one of them passed the knife over K. to the other, who then passed it back over K. to the first. K. now knew it would be his duty to take the knife as it passed from hand to hand above him and thrust it into himself. But he did not do it, instead he twisted his neck, which was still free, and looked around. He was not able to show his full worth, was not able to take all the work from the official bodies, he lacked the rest of the strength he needed and this final shortcoming was the fault of whoever had denied it to him. As he looked round, he saw the top floor of the building next to the quarry. He saw how a light flickered on and the two halves of a window opened out, somebody, made weak and thin by the height and the distance, leant suddenly far out from it and stretched his arms out even further. Who was that? A friend? A good person? Somebody who was taking part? Somebody who wanted to help? Was he alone? Was it everyone? Would anyone help? Were there objections that had been forgotten? There must have been some. The logic cannot be refuted, but someone who wants to live will not resist it. Where was the judge he’d never seen? Where was the high court he had never reached? He raised both hands and spread out all his fingers. But the hands of one of the gentlemen were laid on K.’s throat, while the other pushed the knife deep into his heart and twisted it there, twice. As his eyesight failed, K. saw the two gentlemen cheek by cheek, close in front of his face, watching the result. “Like a dog!” he said. It was as if the shame of it should outlive him.
The Street Scene
Bertolt Brecht
(1938)

In the decade and a half that followed the World War I a comparatively new way of acting was tried out in a number of German theatres. Its qualities of clear description and reporting and its use of choruses and projections as a means of commentary earned it the name of 'epic'. The actor used a somewhat complex technique to detach himself from the character portrayed; he forced the spectator to look at the play's situations from such an angle that they necessarily became subject to his criticism. Supporters of this epic theatre argued that the new subject-matter, the highly involved incidents of the class war in its acutest and most terrible stage, would be mastered more easily by such a method, since it would thereby become possible to portray social processes as seen in their causal relationships. But the result of these experiments was that aesthetics found itself up against a whole series of substantial difficulties.

It is comparatively easy to set up a basic model for epic theatre. For practical experiments I usually picked as my example of completely simple, 'natural' epic theatre an incident such as can be seen at any street corner: an eyewitness demonstrating to a collection of people how a traffic accident took place. The bystanders may not have observed what happened, or they may simply not agree with him, may 'see things a different way'; the point is that the demonstrator acts the behaviour of driver or victim or both in such a way that the bystanders are able to form an opinion about the accident.

Such an example of the most primitive type of epic theatre seems easy to understand. Yet experience has shown that it presents astounding difficulties to the reader or listener as soon as he is asked to see the implications of treating this kind of street corner demonstration as a basic form of major theatre, theatre for a scientific age. What this means of course is that the epic theatre may appear richer, more intricate and complex in every particular, yet to be major theatre it need at bottom only contain the same elements as a street-corner demonstration of this sort; nor could it any longer be termed epic theatre if any of the main elements of the streetcorner demonstration were lacking. Until this is understood it is impossible really to understand what follows. Until one understands the novelty, unfamiliarity and direct challenge to the critical faculties of the suggestion that street-corner demonstration of this sort can serve as a satisfactory basic model of major theatre one cannot really understand what follows.

Consider: the incident is clearly very far from what we mean by an artistic one. The demonstrator need not be an artist. The capacities he needs to achieve his aim are in effect universal. Suppose he cannot carry out some particular movement as quickly as the victim he is imitating; all he need do is to explain that he moves three times as fast, and the demonstration neither suffers in essentials nor loses its point. On the contrary it is important that he should not be too perfect. His demonstration would be spoilt if the bystanders' attention were drawn to his powers of transformation. He has to avoid presenting himself in such a way that someone calls out 'What a lifelike portrayal of a chauffeur!' He must not 'cast a spell' over anyone. He should not transport people from normality to 'higher realms'. He need not dispose of any special powers of suggestion.

It is most important that one of the main features of the ordinary theatre should be excluded from our street scene: the engendering of illusion. The street demonstrator's performance is essentially repetitive. The event has taken place; what you are seeing now is a repeat. If the scene in the theatre follows the street scene in this respect then the theatre will stop pretending not to be theatre, just as the street-corner demonstration admits it is a demonstration (and does not pretend to be the actual event). The element of rehearsal in the acting and of learning by heart in the text, the whole machinery and the whole process of preparation: it all becomes plainly apparent. What room is left for experience? Is the reality portrayed still experienced in any sense?

The street scene determines what kind of experience is to be prepared for the spectator. There is no question but that the street-corner demonstrator has been through an 'experience', but he is not out to make his demonstration serve as an 'experience' for the audience. Even the experience of the driver and the victim is only partially communicated by him, and he by no means tries to turn
it into an enjoyable experience for the spectator, however lifelike he may make his demonstration. The demonstration would become no less valid if he did not reproduce the fear caused by the accident; on the contrary it would lose validity if he did. He is not interested in creating pure emotions. It is important to understand that a theatre which follows his lead in this respect undergoes a positive change of function.

One essential element of the street scene must also be present in the theatrical scene if this is to qualify as epic, namely that the demonstration should have a socially practical significance. Whether our street demonstrator is out to show that one attitude on the part of driver or pedestrian makes an accident inevitable where another would not, or whether he is demonstrating with a view to fixing the responsibility, his demonstration has a practical purpose, intervenes socially.

The demonstrator's purpose determines how thoroughly he has to imitate. Our demonstrator need not imitate every aspect of his characters' behaviour, but only so much as gives a picture. Generally the theatre scene will give much fuller pictures, corresponding to its more extensive range of interest. How do street scene and theatre scene link up here? To take a point of detail, the victim's voice may have played no immediate part in the accident. Eye-witnesses may disagree as to whether a cry they heard (Look out!) came from the victim or from someone else, and this may give our demonstrator a motive for imitating the voice. The question can be settled by demonstrating whether the voice was an old man's or a woman's, or merely whether it was high or low. Again, the answer may depend on whether it was that of an educated person or not. Loud or soft may play a great part, as the driver could be correspondingly more or less guilty. A whole series of characteristics of the victim ask to be portrayed. Was he absent-minded? Was his attention distracted? If so, by what? What, on the evidence of his behaviour, could have made him liable to be distracted by just that circumstance and no other? Etc., etc. It can be seen that our streetcorner demonstration provides opportunities for a pretty rich and varied portrayal of human types. Yet a theatre which tries to restrict its essential elements to those provided by our street scene will have to acknowledge certain limits to imitation. It must be able to justify any outlay in terms of its purpose.¹

The demonstration may for instance be dominated by the question of compensation for the victim, etc. The driver risks being sacked from his job, losing his licence, going to prison; the victim risks a heavy hospital bill, loss of job, permanent disfigurement, possibly unfitness for work. This is the area within which the demonstrator builds up his characters. The victim may have had a companion; the driver may have had his girl sitting alongside him. That would bring out the social element better and allow the characters to be more fully drawn.

Another essential element in the street scene is that the demonstrator should derive his characters entirely from their actions. He imitates their actions and so allows conclusions to be drawn about them. A theatre that follows him in this will be largely breaking with the orthodox theatre's habit of basing the actions on the characters and having the former exempted from criticism by presenting them as an unavoidable consequence deriving by natural law from the characters who perform them. To the street demonstrator the character of the man being demonstrated remains a quantity that need not be completely defined. Within certain limits he may be like this or like that; it doesn't matter. What the demonstrator is concerned with are his accident-prone and accident-proof qualities.² The theatrical scene may show more fully-defined individuals. But it must then be in a position to treat their individuality as a special case and outline the field within which, once more, its most socially relevant effects are produced. Our street demonstrator's possibilities of demonstration are narrowly restricted (indeed, we chose this model so that the limits should be as narrow as possible). If the essential elements of the theatrical scene are limited to those of the street scene then its greater richness must be an enrichment only. The question of border-line cases becomes acute.

Let us take a specific detail. Can our street demonstrator, say, ever become entitled to use an excited tone of voice in repeating the driver's statement that he has been exhausted by too long a spell of work? (In theory

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¹We often come across demonstrations of an everyday sort which are more thorough imitations than our street-corner accident demands. Generally they are comic ones. Our nextdoor neighbour may decide to 'take off' the rapacious behaviour of our common landlord. Such an imitation is often rich and full of variety. Closer examination will show however that even so apparently complex an imitation concentrates on one specific side of the landlord's behaviour. The imitation is summary or selective, deliberately leaving out those occasions where the landlord strikes our neighbour as 'perfectly sensible', though such occasions of course occur. He is far from giving a rounded picture; for that would have no comic impact at all. The street scene, perforce adopting a wider angle of vision, at this point lands in difficulties which must not be underestimated. It has to be just as successful in promoting criticism, but the incidents in question are far more complex. It must promote positive as well as negative criticism, and as part of a single process. You have to understand what is involved in winning the audience's approval by means of a critical approach. Here again we have a precedent in our street scene, i.e. in any demonstration of an everyday sort. Next-door neighbour and street demonstrator can reproduce their subject's 'sensible' or his 'senseless' behaviour alike, by submitting it for an opinion. When it crops up in the course of events, however (when a man switches from being sensible to being senseless, or the other way round), then they usually need some form of commentary in order to change the angle of their portrayal. Hence, as already mentioned, certain difficulties for the theatre scene. These cannot be dealt with here.

²The same situation will be produced by all those people whose characters fulfil the conditions laid down by him and show the features that he imitates.
this is no more possible than for a returning messenger to start telling his fellow countrymen of his talk with the king with the words 'I saw the bearded king.' 

It can only be possible, let alone unavoidable, if one imagines a street-corner situation where such excitement, specifically about this aspect of the affair, plays a particular part. (In the instance above this would be so if the king had sworn never to cut his beard off until... etc.) 

We have to find a point of view for our demonstrator that allows him to submit this excitement to criticism. Only if he adopts a quite definite point of view can he be entitled to imitate the driver's excited voice; e.g. if he blames drivers as such for doing too little to reduce their hours of work. ('Look at him. Doesn't even belong to a union, but gets worked up soon enough when an accident happens. "Ten hours I've been at the wheel."')

Before it can get as far as this, i.e. be able to suggest a point of view to the actor, the theatre needs to take a number of steps. By widening its field of vision and showing the driver in other situations besides that of the accident the theatre in no way exceeds its model; it merely creates a further situation on the same pattern. One can imagine a scene of the same kind as the street scene which provides a well-argued demonstration showing how such emotions as the driver's develop, or another which involves making comparisons between tones of voice. In order not to exceed the model scene the theatre only has to develop a technique for submitting emotions to the spectator's criticism. Of course this does not mean that the spectator must be barred on principle from sharing certain emotions that are put before him; none the less to communicate emotions is only one particular form (phase, consequence) of criticism. The theatre's demonstrator, the actor, must apply a technique which will let him reproduce the tone of the subject demonstrated with a certain reserve, with detachment (so that the spectator can say: 'He's getting excited—in vain, too late, at last... etc.). In short, the actor must remain a demonstrator; he must present the person demonstrated as a stranger, he must not suppress the 'he did that, he said that' element in his performance. He must not go so far as to be wholly transformed into the person demonstrated.

One essential element of the street scene lies in the natural attitude adopted by the demonstrator, which is two-fold; he is always taking two situations into account. He behaves naturally as a demonstrator, and he lets the subject of the demonstration behave naturally too. He never forgets nor does he allow it to be forgotten, that he is not the subject but the demonstrator. That is to say, what the audience sees is not a fusion between demonstrator and subject, not some third, independent, uncontradictor entity with isolated features of (a) demonstrator and (b) subject, such as the orthodox theatre puts before us in its productions. The feelings and opinions of demonstrator and demonstrated are not merged into one.

We now come to one of those elements that are peculiar to the epic theatre, the so-called A-effect (alienation effect). What is involved here is, briefly, a technique of taking the human social incidents to be portrayed and labelling them as something striking, something that calls for explanation, is not to be taken for granted, not just natural. The object of this 'effect' is to allow the spectator to criticize constructively from a social point of view. Can we show that this A-effect is significant for our street demonstrator?

We can picture what happens if he fails to make use of it. The following situation could occur. One of the spectators might say: 'But if the victim stepped off the kerb with his right foot, as you showed him doing...'

The demonstrator might interrupt saying: 'I showed him stepping off with his left foot.' By arguing which foot he really stepped off with in his demonstration, and, even more, how the victim himself acted, the demonstration can be so transformed that the A-effect occurs. The demonstrator achieves it by paying exact attention this time to his movements, executing them carefully, probably in slow motion; in this way he alienates the little subincident, emphasizes its importance, makes it worthy of notice. And so the epic theatre's alienation effect proves to have its uses for our street demonstrator too; in other words it is also to be found in this small everyday scene of natural street-corner theatre, which has little to do with art. The direct changeover from representation to commentary that is so characteristic of the epic theatre is still more easily recognized as one element of any street demonstration. Wherever he feels he can the demonstrator breaks off his imitation in order to give explanations. The epic theatre's choruses and documentary projections, the direct addressing of the audience by its actors, are at bottom just this.

It will have been observed, not without astonishment I hope, that I have not named any strictly artistic elements as characterizing our street scene and, with it, that of the epic theatre. The street demonstrator can carry out a successful demonstration with no greater abilities than, in effect, anybody has. What about the epic theatre's value as art?

The epic theatre wants to establish its basic model at the street corner, i.e. to return to the very simplest 'natural' theatre, a social enterprise whose origins, means and ends are practical and earthly. The model works without any need of programmatic theatrical phrases like 'the urge to self-expression', 'making a part one's own', 'spiritual experience', 'the play instinct', 'the story-teller's

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3 Most clearly worked out by Stanislavsky.
art’, etc. Does that mean that the epic theatre isn’t concerned with art?

It might be as well to begin by putting the question differently, thus: can we make use of artistic abilities for the purposes of our street scene? Obviously yes. Even the street-corner demonstration includes artistic elements. Artistic abilities in some small degree are to be found in any man. It does no harm to remember this when one is confronted with great art. Undoubtedly what we call artistic abilities can be exercised at any time within the limits imposed by our street scene model. They will function as artistic abilities even though they do not exceed these limits (for instance, when there is meant to be no complete transformation of demonstrator into subject). And true enough, the epic theatre is an extremely artistic affair, hardly thinkable without artists and virtuosity, imagination and humour and fellow-feeling; it cannot be practised without all these and much else too. It has got to be entertaining, it has got to be instructive. How then can art be developed out of the elements of the street scene, without adding any or leaving any out? How does it evolve into the theatrical scene with its fabricated story, its trained actors, its lofty style of speaking, its make-up, its team performance by a number of players? Do we need to add to our elements in order to move on from the ‘natural’ demonstration to the ‘artificial’?

Is it not true that the additions which we must make to our model in order to arrive at epic theatre are of a fundamental kind? A brief examination will show that they are not. Take the story. There was nothing fabricated about our street accident. Nor does the orthodox theatre deal only in fabrications; think for instance of the historical play. None the less a story can be performed at the street corner too. Our demonstrator may at any time be in a position to say: ‘The driver was guilty, because it all happened the way I showed you. He wouldn’t be guilty if it had happened the way I’m going to show you now.’ And he can fabricate an incident and demonstrate it. Or take the fact that the text is learnt by heart. As a witness in a court case the demonstrator may have written down the subject’s exact words, learnt them by heart and rehearsed them; in that case he too is performing a text he has learned. Or take a rehearsed programme by several players: it doesn’t always have to be artistic purposes that bring about a demonstration of this sort; one need only think of the French police technique of making the chief figures in any criminal case re-enact certain crucial situations before a police audience. Or take making-up. Minor changes in appearance—ruffling one’s hair, for instance—can occur at any time within the framework of the non-artistic type of demonstration. Nor is make-up itself used solely for theatrical purposes. In the street scene the driver’s moustache may be particularly significant. It may have influenced the testimony of the possible girl companion suggested earlier. This can be represented by our demonstrator making the driver stroke an imaginary moustache when prompting his companion’s evidence. In this way the demonstrator can do a good deal to discredit her as a witness. Moving on to the use of a real moustache in the theatre, however, is not an entirely easy transition, and the same difficulty occurs with respect to costume. Our demonstrator may under given circumstances put on the driver’s cap—for instance if he wants to show that he was drunk: (he had it on crooked)—but he can only do so conditionally, under these circumstances; (see what was said about borderline cases earlier). However, where there is a demonstration by several demonstrators of the kind referred to above we can have costume so that the various characters can be distinguished. This again is only a limited use of costume. There must be no question of creating an illusion that the demonstrators really are these characters. (The epic theatre can counteract this illusion by especially exaggerated costume or by garments that are somehow marked out as objects for display.) Moreover we can suggest another model as a substitute for ours on this point: the kind of street demonstration given by hawkers. To sell their neckties these people will portray a badly-dressed and a well-dressed man; with a few props and technical tricks they can perform significant little scenes where they submit essentially to the same restrictions as apply to the demonstrator in our street scene: (they will pick up tie, hat, stick, gloves and give certain significant imitations of a man of the world, and the whole time they will refer to him as ‘he’!). With hawkers we also find verse being used within the same framework as that of our basic model. They use firm irregular rhythms to sell braces and newspapers alike.

Reflecting along these lines we see that our basic model will work. The elements of natural and of artificial epic theatre are the same. Our streetcorner theatre is primitive; origins, aims and methods of its performance are close to home. But there is no doubt that it is a meaningful phenomenon with a clear social function that dominates all its elements. The performance’s origins lie in an incident that can be judged one way or another, that may repeat itself in different forms and is not finished but is bound to have consequences, so that this judgment has some significance. The object of the performance is to make it easier to give an opinion on the incident. Its means correspond to that. The epic theatre is a highly skilled theatre with complex contents and far-reaching social objectives. In setting up the street scene as a basic model for it we pass on the clear social function and give the epic theatre criteria by which to decide whether an incident is meaningful or not. The basic model has a prac-
tical significance. As producer and actors work to build up a performance involving many difficult questions—technical problems, social ones—it allows them to check whether the social function of the whole apparatus is still clearly intact.

On Everyday Theatre
Bertolt Brecht
(1929)

Your artists who perform plays
In great houses under electric suns
Before the hushed crowd, pay a visit some time
To that theatre whose setting is the street.
The everyday, thousandfold, nameless
But vivid, earthy theatre fed by the daily human contact
Which takes place in the street.
Here the woman from next door imitates the landlord:
Demonstrating his flood of talk she makes it clear
How he tried to turn the conversation
From the burst water pipe. In the parks at night
Young fellows show giggling girls
The way they resist, and in resisting
Slyly flaunt their breasts. A drunk
Gives us the preacher at his sermon, referring the poor
To the rich pastures of paradise. How useful
Such theatre is though, serious and funny
And how dignified! They do not, like parrot or ape
Imitate just for the sake of imitation, unconcerned
What they imitate, just to show that they
Can imitate; no, they
Have a point to put across. You
Great artists, masterly imitators, in this regard
Do not fall short of them! Do not become too remote
However much you perfect your art
From that theatre of daily life
Whose setting is the street.
Take that man on the corner: he is showing how
An accident took place. This very moment
He is delivering the driver to the verdict of the crowd. The way he
Sat behind the steering wheel, and now
He imitates the man who was run over, apparently
An old man. Of both he gives
Only so much as to make the accident intelligible, and yet
Enough to make you see them. But he shows neither
As if the accident had been unavoidable. The accident
Becomes in this way intelligible, yet not intelligible, for both of them
Could have moved quite otherwise; now he is showing what
They might have done so that no accident
Would have occurred. There is no superstition
About this eyewitness, he
Shows mortals as victims not of the stars, but
Only of their errors.
Note also
His earnestness and the accuracy of his imitation. He
Knows that much depends on his exactness: whether the innocent man
Escapes ruin, whether the injured man
Is compensated. Watch him
Repeat now what he did just before. Hesitantly
Calling on his memory for help, uncertain
Whether his demonstration is good, interrupting himself
And asking someone else to
Correct him on detail. This
Observe with reverence!
And with surprise
Observe, if you will, one thing: that this imitator
Never loses himself in his imitation. He never entirely
Transforms himself into the man he is imitating. He always
Remains the demonstrator, the one not involved. The man
Did not open his heart to him, he
Does not share his feelings
Or his opinions. He knows hardly anything
About him. In his imitation
No third thing rises out of him and the other
Somehow consisting of both, in which supposedly
One heart beats and
One brain thinks. Himself all there
The demonstrator stands and gives us
The stranger next door.
The mysterious transformation
That allegedly goes on in your theatres
Between dressing room and stage — an actor
Leaves the dressing room, a king
Appears on the stage: that magic
Which I have often seen reduce the stagehands, beerbottles in hand,
To laughter —
Does not occur here.
Our demonstrator at the street corner
Is no sleepwalker who must not be addressed. He is
No high priest holding divine service. At any moment
You can interrupt him; he will answer you
Quite calmly and when you have spoken with him
Go on with his performance.
But you, do not say: that man
Is not an artist. By setting up such a barrier
Between yourselves and the world, you simply
Expel yourselves from the world. If you thought him
No artist he might think you
No human, and that
Would be a worse reproach. Say rather:
He is an artist because he is human. We
May do what he does more perfectly and
Be honoured for it, but what we do
Is something universal, human, something hourly
Practised in the busy street, almost
As much a part of life as eating and breathing.
Thus your playacting
Harks back to practical matters. Our masks, you should say
Are nothing special insofar as they are only masks:
There the scarf peddler
Puts on a derby like a masher’s
Hooks a cane over his arm, even pastes a moustache
Under his nose and struts a step or two
Behind his stand, thus
Pointing out what wonders
Men can work with scarves, moustaches and hats. And our verses, you should say
In themselves are not extraordinary — the newsboys
Shout the headlines in cadences, thereby
Intensifying the effect and making their frequent repetition easier. We

Speak other men’s lines, but lovers
And salesmen also learn other men’s lines, and how often
All of you quote sayings! In short
Mask, verse and quotation are common, but uncommon
The grandly conceived mask, the beautifully spoken verse
And apt quotation.

But to make matters clear: even if you improved upon
What the man at the corner did, you would be doing less
Than him if you
Made your theatre less meaningful — with lesser provocation
Less intense in its effect on the audience — and
Less useful

_BERTOLT BRECHT_ 339

_On Everyday Theatre_
Eight Drawings

M. C. Escher