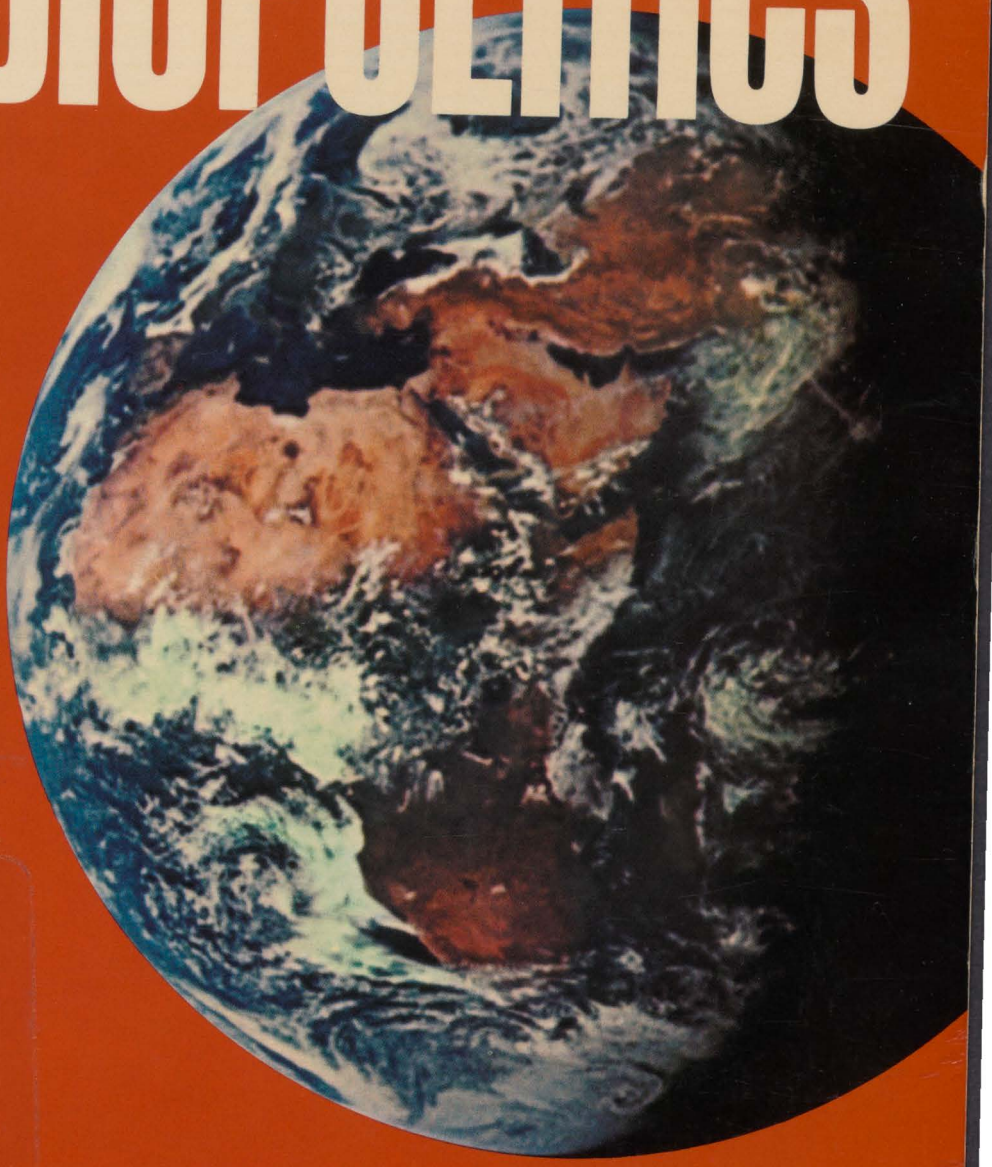
Thomas Landon Thorson

BIOPOLITICS



BIOPOLITICS

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civilization. They have grasped for the trappings of science and followed the manner of scientists; and in so doing they have beyond much doubt developed some technical skills and an increased understanding of certain subject areas. The time has come, however—and this is my argument—for taking the substantive teachings of science really seriously.

Natural science has a method to teach it is true, but much more importantly it has substantive knowledge to teach. Curiously enough, as they apply to human social behavior, the two are not automatically compatible. This incompatibility is part of what this book is about. Self-consciously adopting what is ordinarily understood as the *method* of science has led to the acceptance of what I call the universal-generalization paradigm of scientific understanding. I, of course, make no claim here about each and every one of the thousands of political scientists now practicing their profession in one form or another. I do, however, want to call critical attention to what it is safe to call a strong tendency among them. The present editor of the *American Political Science Review*—is in my judgment quite correct when he says that, "Most political scientists . . . use the term 'science' to denote a particular method of inquiry . . ." and further that, "The main objective of science is to discover, state, and verify the fundamental 'laws' that govern the universe."[1] Professor Ranney further describes the universal-generalization paradigm of scientific understanding when he says, "Scientists seek generalizations that in the manner of the law of gravitation or the law of the conservation of energy, apply to particular phenomena wherever they may be found, and not merely as they appear in some places. The ultimate goal of science is *systematic* theory—that is, a body of logically consistent and connected statements explaining all aspects of the universe."[2]

These statements are intended as part of an obvious, rudimentary description of what science is—they are part of an introductory text—and what they demonstrate beyond much doubt is that science commonly is defined not substantively but methodologically in accordance with the pursuit of any-time-any-place laws which govern phenomena, laws epitomized by those of nineteenth-century physics. This notion even though it is on the surface only a method has "paradigm force"; it pushes and molds theory and it directs research. I quote now the current president of the American Political Science Association speaking of a unified social theory: "The expectation and hope that it will be possible to develop a common underlying social theory impel research in certain inescapable directions. The most significant of these for our purposes is that it has led to the

[1] Austin Ranney, *The Governing of Men* (New York: Holt, Rinehart and Winston, 1966), 2d Ed. Rev., p. 626.
[2] *The Governing of Men*, p. 628.

search for a common unit of analysis that could easily feed into the special subject matters of each of the disciplines. Ideally, the units would be repetitious, ubiquitous, and uniform, molecular rather than molar. In this way they would constitue the particles, as it were, out of which all social behavior is formed and which manifest themselves through different institutions, structures, and processes."[3]

The method of science so understood leads social scientists to search for general laws of behavior and for "uniform" and "ubiquitous" "particles" upon which to base these laws. The substance of science, however, teaches that man is a primate of a special sort, the product of billions of years of tedious natural "trial and error." The *content* of biology, geology, astronomy, palaeontology, and indeed of chemistry and physics themselves give us quite a different angle on human behavior than does the *method* of nineteenth-century physics. The content tells us that behavior has changed and evolved over time but the method tells us we should be seeking constant and unchanging laws about behavior. It is this contrast that I seek here to explore. I ask and try to answer two questions: (1) What are the consequences for political science of adopting the universal-generalization paradigm of scientific understanding? and (2) What kind of consequences would the adoption of an evolutionary-developmental pradigm of scientific understanding be likely to have for political science? I call my first answer a critique and my second a speculation. They are both put argumentatively because, quite frankly, I think an argument needs to be started.

Because much of my discussion involves information and points of view distant from political science and political theory, I have in some cases quoted at greater length than is conventional. Where I thought that someone else said better what I could only have paraphrased, I have not hesitated to present his words. At the same time, however, I have usually resisted the temptation to pile up footnotes and to pay lip service to contrary points of view. The argument I make is controversial at almost every turn and I have no desire to hide the fact. On the other hand I do want the reader to be able to see what I have to say as a whole; and extensive distinction drawing would only obscure that view.

During the making of this book I have been variously associated with the University of Wisconsin, Oxford University, the University of California, Berkeley, the University of the Philippines, Northwestern University, and the University of Toronto. All of these experiences have added in one way or another to what is written here. I want especially to record

[3] David Easton, "The Current Meaning of 'Behavioralism'" in James C. Charlesworth, ed., *Contemporary Political Analysis* (New York: The Free Press, 1967), p. 24.

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vidualists," we are abstracting, we are generalizing, and above all, we are describing a complex reality in a shorthand way. The adequacy of a generalization of this sort has to do with the extent of its "fit" with reality, its appropriateness given certain purposes, and so on—and all of this has almost nothing to do with our discussion in the last chapter. We have no quarrel with descriptive generalizations nor for that matter anything unusual to say about them.

Notice now that the descriptive generalization can sometimes be used for explanatory purposes. If, for example, someone asks, Why is there no significant socialist party in America? we can explain in part by saying "Americans are liberal individualists." Here we could always ask for more by way of explanation—Why are Americans liberal individualists?

Suppose, however, the situation in which a generalization is offered as the ultimate explanation—"this is as far as you can go because the generalization describes the fact that nature just *is* this way." No further explanation can reasonably be asked for, things simply are this way! What we are talking about here are, of course, laws of nature in Newton's sense. What is at issue is emphatically not the idea of generalizing as such, but the generalization *model* of science which implies (1) that universal any-time-any-place laws are *the* goal of science, and (2) that any sort of generalization is good science just because it is a generalization. My argument in the previous chapter is simply that any attempt to develop an explanatory theory of politics on this model necessarily, given the diversity of the subject matter which must be dealt with, ends in vacuity. From this point of view then, Easton's theory is not important in itself. It is but an example of what happens when such an attempt is made.

Saying all this, however, does not mean that Easton's theory is devoid of descriptive content. It might be—in the sense that calling political orders systems might be false—but this would be a different order of observation. Easton, for all of his professed empiricism, is really in very much the same position as the classical metaphysician. He supplies us with a "linguistic recipe" in terms of which observations about politics can be stated.

It is clear enough, I think, that one could not *in terms of Easton's theory* explain why any political order failed to persist because all political orders are defined as systems that *do* persist. By the same token it would be impossible to explain why any particular political order did manage to persist because all political orders are by definition persisting systems. But this is not to argue that one cannot describe, say, the political events in Russia from 1915 to 1920 in Easton's terminology. It is not absurd to say that there was something wrong with Czar Nicholas's feedback loops—although this might add a measure of levity to the situation which some might find undesirable. It is this descriptive residue, this

little doubt that two quite different thought models or ideals are involved. The history of science so understood is a species of traditional narrative history. The abstract, pure picture of scientific inquiry is an instance of what might be called the Platonizing tendency always present in greater or lesser strength in philosophy. When Toulmin, Kuhn, Hanson, and the rest seek to provide a more accurate, more illuminating account of science, what in effect they do is to run history and philosophy together. They are content neither with the "tic, tic, tic of the clock" chronology which characterizes history nor with the ideal form picture of philosophy. The account of science which focuses on the successive invention of theories and paradigms of explanation is more than a history of science, it is a developmental, explanatory theory of science. It is intended to tell us not only what happened but why and how it happened.

The crucial factor in this theory of science is the treatment of time. It is neither a clothesline on which events are hung one after another nor is it abstracted out of existence by an ideal form. Time is neither ignored nor is it simply handled or recognized; it is *taken seriously*. This is the lesson that we have been struggling to learn in these pages—that genuine understanding involves taking time seriously as a fundamental aspect of reality. This involves more than constructing an essentially three-dimensional picture of a mechanism that *allows for* change over time. Historians or philosophers of science, as we have observed, would be unlikely to fall into this trap anyway, because their subject matter is rather obviously inappropriate to such treatment. Taking time seriously demands that time not be regarded as a kind of secondary factor that disturbs essentially static parts, but that it be understood as the primary factor which gives the apparently static components their meaning.

What I am getting at is rather like the relationship between a hydroelectric dam and the river on which it is built. One could look primarily at the dam and its component parts, noting secondarily that the flow of the river is subject to change and that the dam is built to accommodate a certain range of changes. Or one can see the mere existence of the river as primary and the dam and its various parts as only meaningful and significant relative to the river. What, after all, would be the significance of a dam built where there was no river?

Taking the time dimension really seriously is in fact very difficult because we are fortunately or unfortunately three-dimensional creatures or, more properly perhaps, we are *perceptually* three-dimensional creatures. In the deepest sense we can probably only get the "feel" of the time dimension by use of images like the river-dam just described or by employing what the philosophers like to call the *gedanken* or thought experiment.

Suppose, by way of illustration, that we try a *gedanken* experiment or

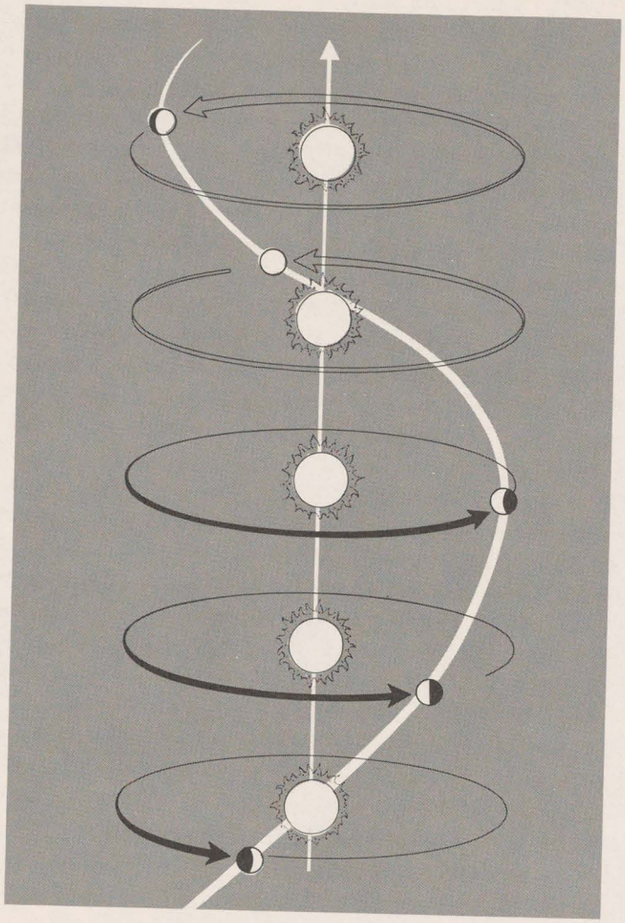
two with a two-dimensional man. Of course, since there are no two-dimensional men, our experiment will have to be an "experiment in thought," but it has the value of making clear the sort of perceptual differences that result from dimensional differences. Consider, then, a man living and perceiving entirely within a Euclidean plane, in short, a two-dimensional man. From a three-dimensional point of view the plane is moving, passing through various three-dimensional objects. Suddenly a point appears to our two-dimensional man. It steadily expands, forming ever larger opaque circles. Finally the circles begin to contract, steadily, down to the original point which then disappears. Our two-dimensional man has seen a sphere. In order, however, for him to know that it was a sphere he would have to learn to take the third dimension seriously.

Suppose that he sees a point moving with regular motion in a circle. What he sees is in fact (or at any rate in three dimensions) a cylindrical spiral which is not moving at all, but he sees it as a point revolving around a center.

Strictly speaking, of course, it is impossible to draw a picture from a four-dimensional point of view. The addition of a little imagination can, however, help to convey the idea. Consider the drawing of motion through time of the sun and the earth on the following page. Notice now that the phrase which I just used, "motion through time," is from a four-dimensional point of view not really correct. To a being capable of perceiving the earth and the sun in full four dimensions the earth would not be in motion, but would appear—to use a three-dimensional image—as a fixed spiral. Likewise, any event or object—there would be no difference between events and objects, an event would be a "short" object and an object a "long" event— on the earth would, because of the earth's rotation on its axis, be a sort of spiral within a spiral. Furthermore, a complex of objects and events, such as a society, would be a set of irregulor spirals in a spiral in a spiral. A society would perhaps be something like a twisted telephone cable in which the wires were not regular.

Of course, we are dealing here not with precise descriptions of societies but with matters of perspective. And, once again, perspective shows itself to be all-important. By the phrase "taking time seriously" I mean to refer to the difference between seeing a society as a length of twisted telephone cable and seeing it through some generalized pattern stretched and loosened to fit each of an infinite number of cross-sectional slices cut from all of the twisted telephone cables.

A considerable variety of implications, some of them of substantial significance, follows from this change of perspective. The rest of this book will, in a certain sense, be nothing more than an exploration of these implications. For the moment, however, let me point out only two of the more basic and general ones. It is not scientific, but scientifically naïve, to



attempt to understand politics on the model of nineteenth-century physics. This is true not only because the fit between the model and the phenomena in question is not very close. It is true also because the static model systematically excludes the most important scientifically demonstrated fact about man. For man is, above all, a biological organism and he is what he is because of and through the process of biological and cultural evolution. Our putative science is and can only be a linguistic recipe unless this fact is recognized as primary. Thus, if we are to compare societies for the purpose of truly understanding them, we must compare twisted lengths of telephone cable and not mere cross-sectional slices. We must recognize that universal generalizations are inevitably vacuous, but we must at the

same time understand that descriptive generalizations are the way to reveal patterns of political activity that take place along an evolutionary time-scale. Stages or phases of political evolution must be understood as primary and the structures and functions of political organization must be seen as relative to the stage or phase of political development.

Making an argument for an evolutionary perspective on human affairs will inevitably invite a barrage of hostile criticism. The mere mention of the word evolution in connection with human social behavior automatically raises the specter of Hegel, Marx, Spengler, Herbert Spencer, and the Social Darwinists, and the whole style of nineteenth-century speculative social thought which we have all learned to disparage on some ground or another. There is, it seems to me, only one way to deal with such criticism and that is to face it squarely and inquire into its validity.

Perhaps the most general and most powerful line of criticism directed against this style of thought is what might be called the Critique of Historicism. In recent days this critical stance has been most often associated with the name of Karl Popper, but it was rather more profoundly (if somewhat differently) put earlier by Kierkegaard and Nietzsche. Understanding human affairs in a developmental, historical context can and has led to a tendency to ascribe causal influences to history itself, to a picture of the world dominated by inexorable laws of history. It is this view, most often attributed to Hegel and Marx, that is called Historicism and it is this picture against which the critics react. Let me note in passing that, so far as I can see, the Critique of Historicism is more precisely directed against the image of Hegel and Marx than against what Hegel and Marx actually said. The adjudication of this matter would, however, take us far afield, so let us suppose that we are dealing with Historicism in the sense of the inexorable laws of history.

The attack is essentially two-pronged. From a logical point of view it is argued that the Historicist creates a metaphysic built upon statements which are vague, meaningless, and useless. Thus, it is contended that statements like "The world is an all-encompassing spirit" and "All developments in human affairs are the result of more fundamental changes in economic relationships" are metaphysical, devoid of meaning, because no facts could possibly show them to be false. We are speaking again of "linguistic recipes" and of what might be called the "God-works-in-mysterious-ways syndrome." The ethical or, one might want to say, ontological criticism is that Historicism makes life meaningless in the sense that individual existence and choice are rendered meaningless by being swallowed up in the march of history.

These criticisms are quite sound and we must, I think, grant them. We can also assent to the objections raised against Spencer and the Social Darwinists for translating an evolutionary perspective into an advocacy

of "survival-of-the-fittest" laissez-faire capitalism. Having said this as plainly as I know how, I can only hope that no one will choose to describe these pages as a twentieth-century revival of Social Darwinism, although I fully expect that someone will.

Having granted the validity of these objections, we must now ask what exactly have we agreed to? Nietzsche once wrote an essay entitled "The Use and Abuse of History" in which he was sharply critical of Historicism somewhat along the lines that we have just described, but in which he maintained that the historical frame of reference was crucial to understanding. Similarly, in accepting the criticisms of Historicism we give up the idea of History as a metaphysic, as what I have elsewhere called a "deductive absolutism," * but we demand its retention as the primary perspective from which we look at the world.

The point here can perhaps be most sharply made by saying a word or two about that perennial argument concerning whether Karl Marx is to be understood as a social scientist or as a philosopher-metaphysician. It is easy enough—I know this perfectly well, having often made this argument myself—to dismiss Marx as a mere metaphysician. In the simplest way the application of positivist tools will show that Marx's major premises concerning the all-controlling power of economic relations or the inevitability of certain historical developments are impossible to falsify in the eyes of a committed Marxist because he can always argue that the facts adduced in support of the objection are mere superstructure, but froth upon the inevitable wave of history. Thus, the positivist accutely argues if no conceivable evidence could be relevant to the refutation of Marx's premises, the premises cannot be empirical propositions, and Marxism, therefore, cannot be science.

It is moreover possible to go beyond this merely logical argument into the intellectual history and actual biography relevant to the question.** There is good evidence to show that Marx learned his historical, explanatory theory from philosophers Hegel and Feuerbach and that Marxism as originally conceived was a philosophical perspective in the tradition of German idealism. Furthermore, it can be demonstrated with a high degree of plausibility that the gathering of vast quantities of economic data later in Marx's life was done under the guidance of his inverted Hegelianism.

Saying all this, however, by no means demands that any standing for Marx as a social scientist must be denied. The inclination for the "tough-minded" social scientist to put Marx aside as a speculator, a mere philosopher, derives partly from the influence of our old friend the hyper-empirical prediction-generalization model of science. Marx was clearly partly a philosopher and is suspect on that count alone, but in addition his generalizations and predictions do not hold up. There is, I think, no need to do more than mention the damage done to Marx's standing as a scientist by Marxism as an ideology.

The problem is of the classic "baby and bath water" type. However much Marx may have been a metaphysician, propagandist, or materialist theologian, neither these arguments individually nor all of them together are relevant to the validity of his historical, developmental perspective. We do ourselves a great disservice if in throwing out the bath water we throw out the baby as well.

Without, I think, making myself into a Marxist in any way, I assert that Marx was correct in his basic perspective. He took time seriously, even though his understanding of the significance of time was necessarily much less elaborate than ours can be in the middle of the twentieth century. The question of the time dimension in the study of human affairs really is, as Nietzsche described it decades ago, one of use and abuse. Because the evolutionary perspective has been abused and is always in danger of abuse does not mean that it has no use. I shall in subsequent chapters try to present what seems to me to be a useful application of the evolutionary, developmental perspective to political understanding. Let me now conclude this chapter with some remarks about the present state of affairs in political studies relevant to the point at issue.

We observed in a foregoing chapter that many natural scientists have found themselves forced to give up a Newtonian, mechanical paradigm of scientific explanation in favor of a developmental, historical one. What forced this change, we noted at the same time was an increased quantity and quality of information—in short, the nature of the subject matter itself. But we also observed—and it is perhaps this fact which is most instructive—that accepted paradigms of explanation die very hard indeed. Kuhn in describing the structure of scientific revolutions goes so far as to suggest that when a change of paradigm is proposed, what allows it to finally win the day (or the century) is not the conversion of its conservative opponents but their eventual death.

What seems to happen is something like this: Men are confronted with the extraordinary complex of factors and variables that make up their environment. Some man or group of men because of unusual mental ability or particularly fortuitous circumstances or some combination of both manage to clamp onto a set of environmental factors and organize them in a way meaningful for human problems. This "clamping on" may take place in any area of human activity, whether we call it art, philosophy, technology, religion, or science. When new facts, new problems, or ex-

* *The Logic of Democracy* (New York: Holt, Rinehart and Winston, 1962).

** See, for example, Robert C. Tucker, *Philosophy and Myth in Karl Marx* (London: Cambridge University Press, 1964).

amples of the "clamping on" of other men intrude, there seems to be an extraordinarily powerful tendency to ignore these disturbances or, if they cannot be ignored, to stretch, bend, and wiggle the original conception in order to capture the new facts or solve the new problems without giving up the old style of thought. When a new style of thought *is* accepted, interestingly enough and as Kuhn implies, it seems very often to be a biological matter. It requires a change of generation or a radical change of environment as when a scientist by some circumstance or other moves from one field of inquiry to a new one.

I suggest that we ought to attend closely to this picture, because—even if in a somewhat vague way—we may very well be talking about the mechanism of cultural evolution. Notice that in this account of the development of science—I would suggest that such a pattern applies to much more than science and perhaps to all of human life—we are taking time seriously and that this account of science itself is in the historical, developmental, evolutionary mold. If this is the kind of thing which that peculiarly human activity science is, then how foolish is our social science that does not give the central place to what human beings actually do. For men create scientific theories, works of art, technological inventions, monetary systems, constitutions, and electoral systems all for the purpose of solving their problems as they understand them. The social system as self-regulating mechanism cannot but be false as a general theory in the face of this. Its credibility, ironically enough, rests on a conception of science which is also false, but whether true or false this conception could not in any case be explained by a theory of the social system as self-regulating mechanism.

I said at the beginning of our inquiry into the nature of science that we had two objectives. First of all, we needed instruction on how we should proceed if we were to be scientific. And secondly, in discovering the nature of science we would also be discovering something important about the object of our inquiry, man himself. We have, I hope, by this time been able to cut through at least one layer of fog and are able to see that science makes no sense unless we see it as human creative activity developing through time and that man makes no sense unless we see him operating through time with his environment and with other men. More must be said and we have several more pages in which to try to say it, but let me now, as promised, say something about contemporary political science.

If it is the case that natural science is marked by strong conservative tendencies, by a powerful disinclination to give up old and well-worn habits of thought, then this same feature ought to be noticeable in political science. One of my former colleagues, who happened to be a student of Latin American politics, once defended the study of the politics of de-

argue that a few steps are not enough. What must be faced squarely is the matter of logical priority.*

One thing I think is clear about the relationship between a static theory of society and an evolutionary one. It is logically impossible to hold a full blown version of both at the same time. Either one or the other must be logically prior—the structures and functions must be relative to stages of development or the stages of development must be relative to the structures and functions. All we have said is an argument for the priority of the evolutionary and we must now look more closely into the implications of that choice.

* See the June 1964 issue of the *American Sociological Review* for a number of articles bearing on evolution and social science. The question of logical priority is, I think, never clearly faced. Note especially Talcott Parsons' "Evolutionary Universals in Society" on p. 339. See also Herbert R. Barringer, George I. Blanksten, and Raymond W. Mack, ed., *Social Change in Developing Areas* (Cambridge, Mass.: Schenkman Publishing Company, 1965) and Robert A. Nisbet, *Social Change and History* (New York: Oxford University Press, 1969).

7
The Phenomenon of Man

1

The great American philosopher Charles Sanders Peirce once described truth as follows: "The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real." * Thinking hard on this suggestion will, I think, repay our effort. Peirce is justly known as the father of American pragmatism, but unjustly credited with the idea that the latest and best conclusion which has been arrived at by science *is* truth. The well-known pragmatic postulate that what works is true may have been said and thought by someone, but it was not Peirce.

Peirce was a mathematician and his mathematical mind thought of truth as the ideal limit of a process. It is in this context that his famous

* *The Philosophy of Peirce, Selected Writings,* edited by Justus Buchler (New York: Harcourt, Brace and Company, 1940), p. 38.

categorical of fallibilism, "Do not block the way of inquiry," must be understood. Peirce did not argue that there was no truth or that truth was simply relative to the individual, but that no one could ever be certain that he knew the whole truth and was thus never justified in eliminating the possibility that he might be wrong.

Reality, Peirce suggests following Kant, is *there* even if we can never be certain that we know it. Reality has a relationship to human thought even if, again, we can never be certain that the relationship is one-to-one. The notion of truth as that which investigators would ultimately agree on suggests that we are often able to tell when we are wrong. The progressive recognition of error leads thought toward truth. Truth is thus to be approximated by institutionalizing the recognition of error, and this procedure, of course, is what we have come to call science. Scientific *method* —and academic enterprise in general would be much better off if this were widely understood—is not so much a positive thing as a negative one. It consists largely of a variety of tests designed to recognize error.

Truth or reality plays a kind of governing role with respect to human thought and this becomes more and more true as our culture becomes more scientific. It would be, I think, a mistake to say that reality "pulls" on human thought. It is more accurate to say that reality bears a relationship to the thought process like the environment does to biological evolution. Thus, reality is an ideal limit to the process of investigation in rather the same way that the environment is an ideal limit on the process of biological adaptation. We may indeed be talking about more than an analogy; we may be describing two aspects of the same process.

2

In the preceding pages there has been a discussion of several areas of human investigation. We talked about natural science itself, about the history and philosophy of science, and finally about the study of politics. In all of these areas we noticed a variety of misconceptions and false starts, but we also noticed with increased quantity and quality of information a tendency toward taking time seriously as an element in understanding. Biology, chemistry, and physics have become more historical and developmental as information has increased. The philosophy of science has become historical; the history of science more developmental like the history of philosophy. And political inquiry has been pulled into historical, developmental studies in a new way. This tendency, I suggest, is not a mere intellectual passing fancy; it is the work of reality shining through the spectacles of scientific method. I shall argue later on that this tendency is also operative in such unlikely places as analytical and existential

philosophy and that it ought to be more explicitly understood in political theory.

These, however, are but themes that, like those in a Beethoven symphony, run through our earlier passages. It is now time to play the melody itself with full orchestra. To this end I have deliberately employed for the present chapter the title of the remarkable book by Pierre Teilhard de Chardin. For it is "the phenomenon of man," the whole biological phenomenon of human life that constitutes the melody from which our lesser themes echo.

My contention here is not metaphysical or religious. It remains, I think, within the realm of science. In arguing, as we have done, for the relevance of time to understanding we are opening the door to a broad view of the nature of man in the universe. A view of great breadth necessarily brings one close to the metaphysical. The notion of relativity in Einstein, of the "divine machine" in Newton, or of the uncertainty principle in Heisenberg have a metaphysical sound even though their purport is essentially scientific.

We can do no better in clarifying this matter than to quote the words with which Père Teilhard describes his own effort. Teilhard de Chardin as both Jesuit Father and distinguished palaeontologist no doubt was uniquely positioned to present a comprehensive view of man and the universe, but his view, according at least to his own words, remains within the realm of science. He begins his preface to *The Phenomenon of Man* * in this way: "If this book is to be properly understood, it must be read not as a work on metaphysics, still less as a sort of theological essay, but purely and simply as a scientific treatise. The title itself indicates that. This book deals with man *solely* as a phenomenon; but it also deals with the *whole* phenomenon of man." **

It is interesting to note that much of the commentary on the book since its publication has tended to ignore this explicit statement. *The Phenomenon of Man* is very often treated as if it were just what the author says it is not, "a sort of theological essay." This is perhaps partly a consequence of the widely known fact that the Vatican prevented publication until Teilhard's death and of the considerable discussion which the book provoked in theological circles when it was published. While it is true, it seems to me, that Teilhard was Catholic enough to demand large answers to large questions, he was also scientist enough to use science skillfully and to know what he was doing. We will be misled then if we do not take his own description seriously:

* From pp. 29–30, in *The Phenomenon of Man* by Pierre Teilhard de Chardin. Copyright 1955 by Editions du Seuil; Copyright © 1959 in the English Translation by Wm. Collins Sons & Co. Ltd., London and Harper & Row, Publishers, Incorporated. By permission of Harper & Row, Publishers, Incorporated.

** *The Phenomenon of Man,* p. 29. (Italics in original.)

> In the first place, [the book] deals with man *solely* as a phenomenon. The pages which follow do not attempt to give an explanation of the world, but only an introduction to such an explanation. Put quite simply, what I have tried to do is this; I have chosen man as the centre, and around him I have tried to establish a coherent order between antecedents and consequences. I have not tried to discover a system of ontological and causal relations between the elements of the universe, but only an experimental law of recurrence which would express their successive appearance in time. Beyond these first purely *scientific* reflections, there is obviously ample room for the most far-reaching speculations of the philosopher and the theologian. Of set purpose, I have at all times carefully avoided venturing into that field of the essence of being. At most I am confident that, on the plane of experience, I have identified with some accuracy the combined movement towards unity, and have marked places where philosophical and religious thinkers, in pursuing the matter further, would be entitled, for reasons of a higher order, to look for breaches of continuity.*

Teilhard thus assures us—and to my mind the rest of the book bears out these assurances—that he is engaging in that classic procedure of the theoretical scientist, what Peirce called abduction or retroduction.** What he sees, and this is what we must see as well, are the facts of the extraordinary antiquity of the universe, progressive biological evolution, and the recent development of man and his creations. He retroduces in the sense that *The Phenomenon of Man* is an attempt to throw a consistent theoretical, explanatory net over these apparently disparate facts. His interpretations of the facts may, of course, be disputed, but so may any scientific theory be disputed. What Teilhard does, taking what he calls "biological space-time" seriously, is to sketch out the broad context in which human activity is set. And this, I suggest, is of great value to our investigation because it gives a substantive perspective to human political activity. I have argued that politics must be seen in an evolutionary context and Teilhard helps us to see what that context is.

3

Discussing man in a broad evolutionary context does nonetheless *sound* metaphysical. Because it is undeniably the case that metaphysics is very much out of fashion in the contemporary world, we are obliged to meet the question of metaphysics head on in a way which would have been quite unnecessary a century ago.

Teilhard continues his description as follows:

* *The Phenomenon of Man,* p. 29. (Italics in original.)

** See N. R. Hanson, *Patterns of Discovery* (London: Cambridge University Press, 1959) and Chapter 7 of my *The Logic of Democracy*.

But this book also deals with the *whole* phenomenon of man. Without contradicting what I have just said (however much it may appear to do so) it is this aspect which might possibly make my suggestions look like a philosophy. During the last fifty years or so, the investigations of science have proved beyond all doubt that there is no fact which exists in pure isolation, but that every experience, however objective it may seem, inevitably becomes enveloped in a complex of assumptions as soon as the scientist attempts to explain it. But while this aura of subjective interpretation may remain imperceptible where the field of observation is limited, it is bound to become practically dominant as soon as the field of vision extends to the whole. Like the meridians as they approach the poles, science, philosophy and religion are bound to converge as they draw nearer to the whole. I say "converge" advisedly, but without merging, and without ceasing, to the very end, to assail the real from different angles and on different planes. Take any book about the universe written by one of the great modern scientists, such as Poincaré, Einstein, or Jeans, and you will see that it is impossible to attempt a general scientific interpretation of the universe without *giving the impression* of trying to explain it through and through. But look a little more closely, and you will see that this "hyperphysics" is still not a metaphysic.*

4

I wish to stress the distinction between what Teilhard here calls "hyperphysics" and metaphysics because a great deal of error and confusion can be and has been engendered by a blurring of the distinction. The early applications of evolutionary thinking to human affairs illustrate this point with considerable clarity. A metaphysic (typically at least, although I am well aware of the fact that there are exceptions to this description) posits a "principle of reality" to which all events and occurrences are ultimately reducible. This is the significance of utterances, properly called metaphysical, such as, "However it may appear, everything that occurs in the universe is an aspect of the Absolute Spirit." Thus, in an evolutionary context, "survival of the fittest" could become the principle to which everything, no matter how unlikely it appeared on the surface, could be finally reduced.

There is a crucial difference between suggesting that human affairs are properly to be understood as embedded in an evolutionary context and attempting to reduce human activity to some sort of universal evolutionary principle. I am here arguing the former and emphatically not the latter—and this, I think, is Teilhard's position as well. Notice the difference between arguing in a Spencer-like fashion that since "survival of the fittest" is the principle of the universe that survival of the fittest

* *The Phenomenon of Man,* pp. 29–30. (Italics in original.)

in a dog-eat-dog economic sense is and should be the rule of the marketplace, and the statement of Albert Camus, "The important thing, therefore, is not, as yet, to go to the root of things, but, the world being what it is, to know how to live in it." * I here anticipate a point that I shall treat more fully later. For the present I want only to call attention to Camus's phrase, "the world being what it is." We are entitled to ask, as an empirical question, How is it? Camus is talking about knowing "how to live" in a certain context and we are, with Teilhard, attempting to describe that context, the context of human life. This can be understood as an empirical question demanding an empirical answer.

5

Of course, the first thing that we must try to grasp is the time dimension. I choose the word "grasp" carefully for real comprehension is no doubt too much to ask of beings for whom the American Civil War is fuzzy and ancient history. Some years ago when I studied zoology at Indiana University, Professor William Breneman concluded his course with a lecture designed to illustrate the time dimension of biological evolution. He called the lecture "From Kalamazoo to You" and in it he compared the development of the universe to a journey from Kalamazoo, Michigan, to the large lecture room in the Chemistry Building on the campus in Bloomington, Indiana.

I don't remember the proportions as Professor Breneman presented them in any exact way, but I can approximate his idea. The distance from Kalamazoo to Bloomington is roughly three hundred miles and if one takes the age of the universe to be something of the order of six billion years, one can say that the earth was formed at about Elkhart, Indiana, two hundred fifty miles away or about five billion years ago. No one, of course, can be very precise about the time at which life began on earth, but it was probably somewhere around Indianapolis, fifty miles and a billion years away. A sort of threshold of proliferation in the forms of life seems to have been reached about five hundred million years ago—twenty-five miles away or just north of Martinsville.

The final part of the journey was pictured by a length of string stretching from one of the windows of the lecture room to a nail (which represented the present) in the top of the laboratory table at the front of the room. A ribbon attached to the string six inches from the table would indicate the birth of Christ, one ten to twelve inches from the table would

* Albert Camus, *The Rebel: An Essay on Man in Revolt* (New York: Alfred A. Knopf, 1956), p. 4.

be the beginning of recorded history. Although no one is quite sure, it is generally agreed that the appearance of *homo sapiens* could be no more than ten or fifteen feet from the nail in the table top.*

Thus, it is clear enough that when we talk about politics from the time of the Greek city-state we are dealing with the last six inches of a three hundred mile journey. How curious it is that anyone should try to make universal generalizations using modern politics as a point of departure when modern politics has been with us in one small part of the world for about the last half inch of a three hundred mile journey—or to make the point a bit more justly but with equal power, the last half inch of a journey of fifteen feet, the time of *homo sapiens*. It is a confusion of the profoundest kind, but one which pervades social science, that modern, civilized Western man is the norm and that primitive or underdeveloped man is the deviant case. And it is a confusion that flows directly from the failure to take time seriously.

6

The question which we must face squarely if we wish to make scientific sense out of man and his activities is this: Does it make more sense to understand man as a biological phenomenon with all that that implies, or to try to fit human behavior to the prediction-generalization model of nineteenth-century physics?

When the question is put this way, the proper answer is, I trust, so obvious that it requires no discussion. However obvious the answer may appear when the question is so put, the fact is that modern social science has opted for the model of nineteenth-century physics. It would be, however, quite unfair to suggest that social science, at some time in the past, was presented with a clear choice like the one our question posits and stubbornly chose the model of physics, thus ignoring both the evidence and good sense. The choice was not clearly posed for a variety of historical reasons, some of which we have discussed earlier. At the time that the issue was decided the biological perspective was in an early and oversimple state and was often mixed up with some sort of historical metaphysics. The model of physics seemed at the time marvelously successful, pure, simple, and choosing it appeared honest and even heroic. The diffusion of ideas being what it is, it is not uncommon to encounter now—fifty years or so later—a masters candidate making this same choice in the name of honesty and feeling not a little heroic.

* 1,000 years would equal about three inches, 10,000 years about 2.6 feet.

the changes they undergo in the body. The fundamental problem of biology was seen as the understanding of the nature of enzyme action. More recently we have seen an increasing importance attached to questions concerning the mechanisms by which the functioning apparatus becomes gradually transformed as the individual develops from the fertilized egg onwards. This movement of thought, which had its origins in the work of such men as His, Roux, Driesch and Spemann, eventually and inevitably became linked with concepts derived from genetics. Its full depth and profundity then became apparent. The dominant position it now holds within the technical field of biology may be recognized in the fact that almost any biologist nowadays would admit that the crucial problem for theoretical biology is an understanding of the way in which genes control the characters of the organisms which develop from newly fertilized zygotes.*

Waddington's remarks here help us in two ways. First, as I have just indicated, this aspect of the recent history of biology helps us to see why the issue between the paradigms of explanation has been and in some ways still is a cloudy one. But in a more important way Waddington's comments speak to the question of logical priority and the "pull" of reality which we discussed a few moments ago. It is not that the problems of metabolism are not important or that they cannot be handled with some success on an input-output, prediction-generalization model. The point is that metabolism and enzyme action are, so to speak, "secondary" phenomena which could not exist at all, let alone in the particular way that they do, apart from the kind of animal that evolved and developed in the way that it has. The evolutionary, developmental questions are, thus, the more fundamental ones. They are logically as well as empirically prior questions. And this is so for no other reason than that animals and their functions are the products of an evolutionary process over a vast period of time and not the full-blown creations of some cataclysmic act a few thousand years ago.

9

In very much the same way, the attempt to make universal generalizations in human affairs derives from that rather static view of the world which was characteristic of biblical times and has biblical origins and which, of course, continued into the world of Newtonian physics. If it were indeed the case, as Newton and others of his time thought and as has been assumed until very recent times, that the world was simply created full-blown some six thousand years ago, then it would follow that the way to understand human affairs would be to look for regularities,

* *The Ethical Animal*, pp. 73–74.

for those universal principles that apply to all human life. Under those circumstances it would make sense to attempt to look at modern man first and primitive man second or primitive man first and modern man second. It really would not make very much difference because man would be man, and the principle would apply in any case. When one, on the contrary, looks at the problem from the perspective which evolutionary thought supplies us, it becomes clear that the important feature that we should try to grasp is not some set of universal laws that apply everywhere and for all time, but to try to see the way in which man has *developed* his peculiarly modern characteristics. Only in that kind of context can we begin to understand what modern politics is really all about. The evidence for this is the plain and simple fact that the best and most informative knowledge that we have about politics is historical knowledge—even if we sometimes present historical knowledge under the sociological category of "political culture."

The argument made here is clearly one which favors the historical, evolutionary point of view. I have tried to show the sense in which this perspective was rejected by twentieth-century social science as a consequence of certain historical circumstances, namely, the fact that the evolutionary perspective as it first developed in the nineteenth century was intertwined with a number of metaphysical assumptions and thus did not meet standards of scientific precision. Nonetheless, in order to deal with this issue fairly we must face the question whether or not there are still good reasons for choosing the universal-generalization model for understanding human affairs even though, as I have contended, the evolutionary model is no longer involved with the historicist metaphysic. To do so, to make this choice on the side of universal-generalization, seems to me to accept in effect the doctrine of special creation—something which one would not suppose that social scientists would ordinarily be inclined to do. But I think it must be said that if one is to contend that human behavior is some special sort of thing which does not follow an evolutionary pattern as man's physiological and anatomical nature clearly does, then this is to say that human culture is something fundamentally different from what we would ordinarily call man's biological nature. The question is are there good reasons for making this assumption or does it *simply* flow from the historical reasons which we have discussed earlier?

10

What then is the best argument that one could give to support the universal-generalization notion? I think that one of two notions would have to be presented. Probably the two together are the operative support for the choice. The first is that human culture—man's products and man's

behavior—is something quite different from animal behavior. And the second notion probably is the assumption which we have discussed before, namely, that science simply *is* the seeking after universal generalizations. Now I think that we have rejected the second proposition with sufficient force and sufficient argument. Therefore we are left with the first, that is, that human culture is something different from biological development and consequently ought to be understood according to quite different standards.

At a certain level such an argument is obviously quite a plausible one. There is clearly a great deal of difference between the way in which man developed relatively small canine teeth and the way in which he chooses his political leaders. At a more profound level, however, the simple acceptance of a distinction of this sort and the basing of our science upon it involves an assumption which when examined carefully I am not certain that many social scientists would be prepared to accept. This assumption is very clearly focused upon by Teilhard de Chardin. He puts the problem in the following way: Either, he says, we assume that the peculiarly human kinds of behavior which involve consciousness and self-consciousness came into the historical development of the universe *from the outside* in some special way at some particular time, or we must assume that somehow even these characteristics grew out of the development of the universe and were, in some sense of the term, implicit in it from the beginning. Thus, we must ask the question if human consciousness and all that is connected with it were not somehow implicit in the historical development of the universe from the beginning, then where and from what source and under what circumstances *were* they introduced into the universal time process?

Surely then everything that we know about science and the natural order of things forces us to accept human consciousness, self-consciousness, behavior, and culture as *natural* phenomena. The case for a contrary point of view would seem ultimately to rest necessarily upon a doctrine of special creation or something quite like it.

Saying this, however, does not really decide the issue before us. It would still be possible to accept human behavior as a natural phenomenon and yet to argue that its proper understanding would be in terms of the universal-generalization model. What seems to be clear, however, is that the acceptance of human behavior as a natural phenomenon demands that we take evolutionary considerations as logically prior. We are, thus, obliged to look actively for the connection between man's biological development and his intellectual and cultural development. The presumption is that the two most certainly *are* connected and only a preponderance of evidence could persuade us that they are not. The burden of proof would, thus, seem clearly to be on the advocate of the universal-generalization model.

And this, of course, is how a paradigm of understanding works; it determines what kinds of questions ought to be researched while another paradigm might not even raise the question.

What I ask you to notice is that the evolutionary-developmental paradigm calls direct and crucial attention to the question of the relationship between biological evolution and social-cultural evolution, whereas this is not a question at all for structural-functional analysis or systems theory (at least as presently employed by social scientists). By the same token, while the universal-generalization paradigm by its basic logic forces someone like Easton to engage in extraordinary feats of concept manipulation in order to achieve universal categories and definitions, the evolutionary-developmental paradigm makes no such demand and on the contrary leads one to expect the remarkably sensible conclusion that different kinds of political orders are in fact different.

11

In pursuing the question of social-cultural evolution and its connection with biological evolution we face a certain difficulty. The difficulty is not so much a conceptual one as it is an expositional one. In order to do full justice to the evidence which is relevant, I should have to insert into these pages what would amount to a lengthy textbook on biology. Since I cannot presume to do so, I must ask you to accept, or at least entertain, a much briefer and more general account pointed specifically at the particular problem at hand.

Studies of biological evolution are, of course, vast and complicated. As in any research area, there is disagreement among experts over matters of detail and sometimes of interpretation. At the broadest level, however, there seems to be general agreement that while the course of evolution is certainly not wholly determined, neither is it wholly random. Thus, while biologists would generally argue that the process of mutation at the genetic level is random, they would also accept the notion that a direction is discernible in the course of evolution as a whole and often in the evolution of particular aspects of life. To put the latter point briefly, there seems to be little doubt that one can speak sensibly of "higher" or "more advanced" forms of life and that these higher forms on the whole developed later in the evolutionary process. Thus, in the most obvious case, man, who by a great variety of purely biological measures is the most advanced form of life yet produced also appears quite late in the time scale.*

* See, for example, the discussion by Marston Bates, *Man in Nature* (Englewood Cliffs, N.J.: Prentice-Hall, 1964).

The enormous complexity of the process and the fantastic diversity of the products cannot be overstressed. We need, nonetheless, in order to focus our vision, to make some general descriptive statements about the process of evolution. Everyone knows and understands the general notion that nature throws up an enormous quantity of chance variations in living things and that those which are able to "make a living" in the environment tend to survive while those that find no place perish. What we must notice is that this process depends upon what can perhaps be described as an "information transfer system." The most perfectly adapted particular animal or plant would be utterly insignificant from an evolutionary point of view unless it were able to transfer its adaptation to offspring. Recent research by geneticists into the DNA molecule has opened the door to a much more profound understanding of the system of information transfer from parents to offspring. It is not accidental that biologists speak of "breaking the genetic code" because what they are dealing with is the way in which information is *encoded* in the gene.

12

We nonbiologists find it easy enough to understand that particular *physical* characteristics such as the opposable thumb or the cloven hoof are genetically passed on through the generations. We understand that the giraffe has a long neck because it allows him to survive. But, I think, what is not nearly as well understood is that, particularly in animals lower on the scale than man, *behavioral* characteristics are genetically communicated as well.

When we speak of behavioral characteristics being genetically determined, we raise the notion of "instinct" and the paradigms of understanding again clash and grind like incompatible gears. No one, I think, could argue with the proposition that twentieth-century social science taken as a whole and including psychology, anthropology, sociology, and political science tends to be pretty skeptical about the idea of instinct. Test your own educational experience with respect to this point. We are taught, quite simply, that to talk about instinct is to be unscientific. In the field of psychology the use of instinct as a concept was for a long time classed as what Osgood described earlier as "junk-shop psychology." Of course, what is meant when it is suggested that instinct is unscientific is that it is "un-universal-generalization-scientific." For deeply embedded in the fundamental logic of the stimulus-response, input-output, structural-functional model of social understanding is the notion that any item of

14

Before proceeding to the next step in the argument, we need to pause for a moment to say something more about our theoretical perspective. We have already said that it is possible to discern a direction to evolutionary development, and indeed it is. We will be seriously misled, however, if we suppose this progress to be a simple, linear, step-by-step matter. Nature is not goal-directed or systematic in achieving progress. On the contrary, evolution, taken as a whole, is much better described as a trial-and-error process, and nature can be best understood as pragmatic. To speak rather metaphysically, as I think we must if we are to grasp the proper perspective, nature is like a bundle of inexhaustible energy (forget the Second Law of Thermodynamics for a moment) expanding into a vast myriad of passageways. Some of the passageways are dead ends into which energy is directed for a time and eventually given up. Extinct species are represented by this sort of dead end. Some dead ends seem, however, to be viable—at any rate so far as anyone can tell. Thus, certain species, generally relatively low on the evolutionary scale, continue unchanged for millions of years and show no signs of altering. Still other passageways seem to be open to what might be called "lateral" expansion. It is as if the passage divides at its end into a nearly infinite number of capillaries and the energy keeps on expanding laterally to fill them. Consider the Galápagos finches or the variety of deer or land snails, for example. Finally, certain of the passageways seem to be open-ended and energy continues to push into them. It is here that we find man with his new form of information transfer.*

What I have said here is not intended as a precise description, but as an image in terms of which we can orient ourselves. Descriptive generalizations about this process are necessary in order to get it into words, but no universal law can be posited without falling into a variety of Easton's dilemma. Nature is and has been in the process of doing what works—not necessarily what works *best* because this would imply a perfect *telos* which we cannot be certain of, but simply what works.

While we cannot legitimately use the term "*best*" in this connection, "*better*" seems acceptable provided that we do not test it against irrelevant human philosophical inventions. For nature as a matter of fact *has* experimented with the big brain and produced a creature who has become biologically dominant, encircling the globe with his artifacts and the ocean of thought which Teilhard de Chardin calls the noosphere. In a natural context the fact that this has happened is the only test of "better"—if it

* Cf. Waddington, *The Ethical Animal*, pp. 125–126 and *passim*.

as though she were a person

relative to me -- Hence --?

had not worked "better" it would not have been done—and this is what is meant when it is said that a direction in evolution can be discerned. But we have no reason to suppose that man is the best possible product. On the contrary, nature's invention of the big brain was probably, as Freud once remarked, "an uneven and careless piece of work."

because we understand ourselves as the end-product -

15

If, as we have suggested, evolution is a pragmatic process which works through a mechanism of information transmission, then we must suppose that if a better system of information transmission were stumbled upon nature would capitalize on it. We can now risk a general statement which will not mislead us providing always that it is properly qualified. Thus, we can say that *other things being equal* nature will find selective advantage in creatures which are flexible with respect to their environment. The more able a particular creature is to adapt to varying environments the more likely it is that he and his kind will survive. At the genetic level a similar principle would lead to the selection of a bisexual genetic arrangement over an asexual one just because the possibility of adaptive variation would be greater—and of course, this has happened. But we are speaking of something beyond the purely genetic and we are saying that *other things being equal* creatures provided with more flexible equipment with respect to environmental adaptation will survive over those that have less flexible equipment.

In order to understand what is being said here we must keep the energy-passageways image clearly in mind. As stated, this proposition probably explains pretty well why *homo sapiens* developed once the primate line got started, or more specifically for example, why Cro-Magnon man replaced Neanderthal man in the European forests. But it cannot be stated as a general law without the "other-things-being-equal" because other things are typically not equal. Consider these remarks by Waddington about the evolution of insects:

> Evolution from a primitive arthropod to a highly evolved insect such as a fly or bee has undoubtedly involved the real improvement of the arthropod type of organization, but this improvement has at the same time brought with it limitations which render indefinite further improvements impossible. For instance, insects have adopted and brought to a high degree of perfection the system of aerating their tissues by means of small tubes leading in from the exterior, through which oxygen passes by the process of diffusion. This system can be extremely satisfactory when the distance which the oxygen has to travel is small; but it would be almost impossible to evolve from it a respiratory system which could serve the needs of animals much bulkier than

The time seems to have come when we need to take into account two further aspects of the evolutionary mechanism. In the first place, natural selective pressures impinge not on the hereditary factors themselves, but on the organisms as they develop from fertilized eggs to reproductive adults. It is only by a piece of shorthand, convenient for mathematical treatments, that indices of selective value are commonly attached to individual genes. In reality we need to bring into the picture not only the genetic system by which hereditary information is passed on from one generation to the next, but the "epigenetic system" by which the information contained in the fertilized egg is translated into the functioning structure of the reproducing individual. As soon as one begins to think about the development of the individuals in an evolving population, one realizes that each organism during its lifetime will respond in some manner to the environmental stresses to which it is submitted, and in a population there is almost certain to be some genetic variation in the intensity and character of these responses. *Natural selection will favor those individuals in which the responses are of the most adaptive value.*

Two consequences can be expected to follow, and have in fact been demonstrated experimentally. In the first place natural selection will build up genotypes which set going developmental mechanisms which easily respond to environmental stresses by the production of a well-organized modification which is of adaptive value. It will, as it were, build into the genotype a gun which is not only set on a hair trigger but which is aimed to hit the target when it goes off. In so far as such a developmental response becomes precisely delimited and easily initiated, it becomes more likely to be produced by unspecified changes in the chemical nature of the hereditary substance. Mutations, which we can think of as random when we are considering nucleoproteins in the chromosomes, will have effects on the phenotype of the organisms which are not necessarily random, but which will be modified by the types of instability which have been built into their epigenetic mechanisms by selection for response to environmental stresses.*

Waddington, thus, finds evidence for a sort of feedback relationship between epigenetic development and the genetic mechanism itself. Nature will and apparently has found ways of taking advantage of the life experience of individual organisms for evolutionary development. It is from this kind of perspective that we can begin to see what man is doing here. Nature has found a way in the warm-blooded, mammalian, primate passageway to increase the capacity to adapt by adding to instinct the capacity to learn, and finally not only the capacity to learn but the capacity to teach as well. While we certainly are not in a position to specify all of the precise details, the evidence is substantial that in the human passageway nature found a new method of information transfer, namely, that product of human learning and teaching that we call culture.

* *The Ethical Animal,* pp. 89–90. (Italics added.)

And through this system of information transfer evolution has continued, giving man the ability to fly, to stay beneath the sea, and to modify his environment in thousands, perhaps millions of ways. It is from this perspective that we must see the phenomenon of politics, remembering always that however important the utilization of natural resources may seem (as, for example, it did to Marx), the cultural system is basically a "sociogenetic" system, a system of information transmission.

One is presumably empirical: Is man a political animal or not? The other seems philosophical: How did Aristotle mean it and why has this meaning been rejected? My notion is that these questions are not so separate as they appear. To pull them together will, however, take some showing. I must therefore ask you to put yourself in my hands for a few pages while I plunge off into what may look like a digression. Hopefully, by the end of this chapter it will be clear that we are on the main track.

2

What then *did* Aristotle mean when he said, "Man is by nature a political animal"? The best point of departure in dealing with this question is to refer back to our earlier brief discussion of Aristotle in connection with the nature of paradigms of explanation. Recall Toulmin's treatment of cooking, ripening, and Aristotle quoted in Chapter 3, Section 3. There, you will remember, it was suggested that Aristotle's understanding of the nature of things was essentially biological. He saw the principle of nature as one of growth according to pattern. Thus, the process of cooking would have been understood by Aristotle in terms of the process of ripening and not the other way around. Understanding any particular thing or process was not for Aristotle a matter of breaking it up into its component parts and seeing how they fit together—an essentially mechanical mode of analysis—but on the contrary a matter of discovering the end toward which a thing or process was growing and seeing how it was so growing. Thus, it is correct to say that Aristotle's "root metaphor"—to use Pepper's term—was a biological one. It is important to see at this point that Aristotle's mode of analysis was biological not simply with respect to what we would now call "biological things," but in general, with respect to anything and everything. This—and this remark is a genuine digression—is what makes it so unsatisfactory to treat, say, Aristotle's *Politics* in isolation from his *Physics, Ethics, Poetics,* and indeed from his *Posterior Analytics.*

Aristotle's thinking, while certainly biological, was, however, by no means evolutionary. He saw—very empirically and in a very commonsense fashion—a sort of constant pattern of birth-to-death cycles. His judgment was that all particulars are to be understood as participating in a certain pattern of movement from potentiality to actuality. All little pigs grow into big pigs and all acorns grow into oak trees—or, more precisely, these cycles and countless others like them obtain if there is no external inhibitor. Aristotle was therefore able to conclude with the general statement: All things tend toward a certain end. Understanding a thing, thus, necessarily involved understanding the end toward which it

Reason understands that the 2 Arist. definitions go over Rationalism and Logic exactly belong together.

was tending. This is obviously a very simple description of the Aristotelian doctrine, but I think it will suffice for present purposes.

Aristotle's question with respect to man was, therefore, what is the end for man? The whole of the *Nicomachean Ethics* is devoted to answering this question in full. The substance of the answer, however, is simply that the end for man is happiness and that happiness involves the contemplative life. Aristotle recognized that man shared many characteristics with other animals, but that what differentiated man's particular potentiality-to-actuality pattern was his capacity to develop the rational faculty. And Aristotle concluded in a way that all of modern psychology and anthropology can scarcely contradict that the development of reason required the development of speech which required interaction with other human beings. Thus, man was by nature the rational animal, the speaking animal, and the social (political) animal. Of course, Aristotle, when he used the term "political," meant something more precise than merely "social"; he referred to the polis and to the possible perfection of speech and reason in it. This matter is thoroughly discussed elsewhere and we need not be detained by it.

What is important for purposes of the present discussion is to see that the phrase, "Man is by nature a political animal," was for Aristotle embedded in a general view of the world which saw nature as consisting of an established set of patterns or cycles, and that each particular thing moved according to the particular cycle or class of things to which it belonged. Thus, again, acorns moved toward becoming oak trees and little pigs toward becoming big pigs, but an acorn could never become a big pig or a little pig an oak tree.

Aristotle, of course, had no real conception of the evolutionary reasons why this should be so. He simply saw that it *was* so in a very large number of cases and he extrapolated, so to speak, from these cases to all cases whatsoever and, thus, to a general principle of the nature of things. Another way to say essentially the same thing is that Aristotle began his analysis from an implicit and all-encompassing premise that nature *was* ordered and that man like all other things was a part of that order. Thus, knowledge and understanding were essentially matters of *discovery* rather than of invention. From this point of view, the world *is* ordered—there can be no doubt of this—and man's task if he wishes to solve problems is to find out what that order is and act in accordance with it. Notice that from this perspective there can be no question of a logical gulf between is and ought. "Oughts" are obviously derivable from knowledge of a thing which necessarily involves understanding what its end, purpose, and perfection is. Thus, the notion of "moral knowledge," which from a more recent point of view is a contradiction in terms, is an obvious and important kind of knowledge.

3

Before proceeding with a description of that "more recent point of view" just referred to, let me pause to put a question in your mind which I do not propose to try to answer immediately. Granted that Aristotle held this ordered view of nature and that his view is more or less typical—at least in logical type—of what we have come to call the classical mind, the interesting question is simply, "Why did he hold such a view?" I do not mean "why?" in a personal psychological sense, but rather something more like, "What was it in Aristotle's cultural circumstance and in the cultural circumstances of the countless others who agreed with him that made this way of looking at things seem correct?" When taken seriously, this is a very difficult and yet crucially important question. Let us allow this question to sit for a moment and move on to discuss the modern rejection of the Aristotelian view.

4

I suggested a few moments ago that Aristotle's biological perspective pervaded all of his work including his *Posterior Analytics,* in short, his very conception of what it was to be logical. Aristotle held that knowledge was obtainable by deductive demonstration from a general premise. Consider his classic syllogism:

All men are mortal
Socrates is a man
∴ Socrates is mortal

Examining this syllogism will get us to the heart of the difference between the classical view of things and the more modern one. Let us ask the question, Why, or in what sense, does the conclusion follow from the premises? and try to answer it from a modern point of view. I should perhaps interject here that I am speaking in very general terms when I use "classical" and "modern" and have no reason at present to go into the multitude of variations which a historian of philosophy might want to bring up. From a modern view, then, the conclusion can be said to follow from the premises because, and only because, it is *implicit in* the premises.

What is being suggested is that a syllogism of this sort depends for its validity on defining words in certain ways. Thus, it is argued that the conclusion provides no knowledge about the empirical world, it only

reflects the fact that the premises have been set up in a certain way. A syllogism, therefore, is said to be a kind of tautology. Restated, it becomes, "If we define 'men' to include the characteristic 'mortal,' then Socrates, defined as being a man, is mortal." The principle from which all of this is derived—we touch again on our earlier discussion of the verification perspective—is the notion that knowledge of the empirical world can only be stated in propositions that can be tested against sense experience and found to fit or accurately describe that experience. Thus, "All men are mortal" cannot but be a definitional statement because we can show only that men who are dead are mortal and we cannot be certain about those now living or those not yet born. "All men are mortal" is not, therefore, an empirical statement, but a way of defining man.

Aristotle, of course, looked at this matter in quite a different way. Remember now that he starts from a perspective which has nature *ordered,* more precisely, ordered in terms of a constant set of potentiality-to-actuality cycles. Thus, when one observes a number of men and sees that they are mortal, it is possible to conclude not simply that these particular objects are mortal, but that one has seen the essential nature (potentiality-to-actuality cycle) of the category "man." "All men are mortal" therefore is not simply a definition, it is a description of the natural class of things called man. Remember that Aristotle invented the notion of biological classification by species and genus. Reflect also on Aristotle's well-known definition of a definition.

5

What I am suggesting by this discussion is that there is a fundamental difference in perspective between classical and modern and that recognizing this difference is of very great importance to our understanding. From the classical point of view man is very much *in* nature. He operates as a natural phenomenon in the midst of other natural phenomena. The instincts, the emotions, the wants, desires, and dislikes are real and personal. Knowledge about man in general and one's self in particular must always be practical knowledge in the sense of having genuine consequences. Knowledge can never be detached.

The modern mind, on the other hand, tends to put itself outside of nature looking in. The distinction between subject and object is clearly and sharply drawn. Historians of philosophy generally date the beginning of modern philosophy from René Descartes. What distinguishes Descartes from his predecessors? The radical separation of mind from body is the distinguishing feature. Hannah Arendt in an acute metaphor describes the rise of modern science as the discovery by Western man of the Archimedean point, the place to stand *outside* the world from which man can lift the world. John Locke in the fundamental statement of philosophical empiricism describes the mind as a *tabula rasa,* a blank slate detached from nature upon which experience writes. The mind-body dualism, the Archimedean point, and the *tabula rasa* all reflect the typically modern position of detachment from nature.

6

Let us now return to the proposition (or putative proposition if we want to be modern about it) "Man is by nature a political animal." From a classical point of view what is being described is one of the essential characteristics of the class of things called man. From the knower's position *within* nature ends and purposes were as real, certain, and genuine as anything else. Why, on the face of it and without the intervention of any theoretical criteria, should the fact that men are tending toward some end be any less real than the fact that men tend to have five fingers on each hand? From this position within nature it would be equally clear that things other than man have purposes. Do acorns tend to grow into oak trees or not? If you are inclined to dismiss all this as simple anthropomorphism, I must ask you to reflect on two things. First, whether you want to call it anthropomorphism or not, a great many people for a very long time did in fact think this way and, I suggest, it is important that this be recognized. Secondly, ask yourself the question: What kind of theoretical perspective is necessary for me sensibly to describe this kind of thinking as anthropomorphic?

Thus, man *feeling* (I choose this word carefully) himself inside nature would see man as literally *by nature* a political animal. As soon, however, as the knower takes up a detached position *outside* nature, the sense of the phrase must change radically. This perspective leads the knower to look at all features of nature including man as objects—"objects out there to be examined." From this perspective one must make a premise of doubting all premises and one must be limited to calling true only that which can be certainly seen to be the case. Thus, the suggestion that all men are political animals taken as an empirical statement becomes in principle uncertain, and the phrase "by nature" empty of meaning. From here, of course, in the realm of logical analysis the kind of logical tests described as modern a few moments ago come into play.

To anticipate what I shall try to say more fully later on, this change in perspective alters the whole fabric of understanding that goes into the contemplation of man's political activity. Politics becomes not as it formerly was a matter of discovering man's proper place in nature and

acting in accordance with it, but a matter of describing objects and *inventing* a way to deal with them. It is, I suspect, no accident that the idea of the social contract which was but a minor theme in classical political thought becomes the dominant consideration in the wake of the acceptance of the new detached perspective of analysis.

Looking at nature, including human nature, from the outside makes politics a matter of construction, of invention. "By art is created the great Leviathan," Hobbes asserts, and not, as was formerly thought, by nature. The Hobbesian perspective is nowhere more clearly described than by Sheldon Wolin:

> "Science"—to use Hobbes's comprehensive term—had progressed so rapidly because scientists had been bold enough to break with traditional modes of thought and inquiry. They had refused to follow the path of building slowly on past achievements, of zealously preserving the main corpus and modifying only where necessary. The unprecedented development of "science" was pictured by Hobbes as an intellectual drama of creative destruction. Men had taken a radically new look at the universe, shedding their preconceptions and purging from their categories the vestiges of Greek teleology and Christian cosmology. By intellect alone, without appeal to super-authority and without relying upon non-rational and non-sensory faculties, man had created a rationally intelligible cosmos without mystery and occult qualities.
>
> Deeply impressed by the dramatic potentialities of this procedure, whereby man created intelligibility among the phenomena of nature, Hobbes then turned to convert it to the uses of philosophy, to make creative destruction the starting point for philosophical method. True philosophizing commenced with what Hobbes designated "privation"; that is, an imaginative act of destruction, a "feigning the world to be annihilated." . . .
>
> What was breathtaking about the enterprise was that it rested upon a conception of truth not as a faithful report of external "reality" but as an "arbitrary" construction of the human mind. . . . The crucial point, however, was that for Hobbes the "arbitrary" and the creative were synonymous. Hobbesian man emerged as the Great Artificer, the creator of science, mathematics, and philosophy, the architect of time and space, values, and truth itself.*

7

We now find ourselves in a very curious situation with respect to attaching meaning to "Man is by nature a political animal." If, on the one hand, we accept the classical position with all that it involves, the proposition appears to be simply true. From a modern, empiricist perspective, however, the canons of logic direct us to regard the statement as either a meaningless piece of metaphysics or simply a sort of prescriptive definition. But, as the case of Hobbes illustrates, the modern perspective does not necessarily leave it at this, but may go on instead to show man as the political animal in a new sense, as the creator of political order.

* Sheldon S. Wolin, *Politics and Vision* (Boston: Little, Brown, 1960), pp. 245–246.

8

There are, I think, two important things to be learned from this apparent paradox. The first we have already in a certain sense discussed at some length. Put in general terms it can be stated something like this: Human thought seems to work according to general organizing principles, *Gestalten* if you will, or paradigms of understanding. Here the example of the Neapolitan ice cream pie becomes relevant again. It all depends on how you cut into it! The process appears to work something like this: The mind settles on a certain aspect of a situation, comes to see it in a certain way, and then either ignores other aspects of the situation or forces them to appear consistent with the central focus. I am, I think, quite convinced that this is the way that the minds of philosophers, including natural philosophers (Kuhn's argument speaks to this point), work, although I am less confident about it as an absolutely general statement. Some psychologists would surely argue that the ordinary man quite readily holds inconsistent beliefs. But one can always ask inconsistent from whose point of view? Moreover, the psychologists surely recognize the stresses caused by what they call "cognitive dissonance," and the tendency to reduce or eliminate that dissonance.

However this may be, it seems clear enough that in the cases now before us, a focus on a *certain aspect* of the human situation has a sort of controlling effect on the *general* understanding of the human situation. Thus, if one settled on the notion of an all-encompassing order in nature as Aristotle did, then the very canons of logic itself, together with the understanding of the nature and limits of human knowledge, become subordinate to it. This, it seems to me, is why the jump from the empirical (in the modern sense) observation that "some men are x" to general statements (All men are x) about the category man seemed to bother Aristotle very little. It clearly did not bother him enough to make him reject his substantive argument.

Quite the reverse seems to be the case with someone like Hobbes and the many thinkers who follow in his wake. Here a stress on the epistemological and logical aspect of the human situation seems to result in a complete reevaluation of man's life in general and his political activity in particular. One does not start with community as a premise (given by

nature as it was for Aristotle), but with the "state of nature" which by definition is the absence of community. And we are by no means merely speculating here, for, as Wolin points out, Hobbes is quite explicit about his epistemological and logical premises, calling for a creative destruction of the accumulated falsehoods of the classical and Christian tradition.

It is important to notice that while the political understanding of Aristotle and Hobbes differs sharply in relative emphasis, their views are not *utterly* different. They are both, after all, talking about politics. Aristotle stresses community as given by nature, but he does not ignore man's rational capacity to create by political choice. Hobbes in stressing the rational capacity for political choice directs his attention at choosing to create community. Thus, difference in theoretical perspective is very often a difference in emphasis. And, I think, this is probably especially so in political theory. Democratic theory, for example, nearly always involves some discussion of both majority rule and individual rights, but the difference in emphasis can be very great.*

9

So much for lesson number one. Lesson number two can be simply, indeed perhaps tritely, stated as follows: Politics almost certainly involves what might be called a "by nature" aspect *and* a rational, creative aspect. I suggest that this statement might be considered trite because surely any ordinary, intelligent observer can see that men "naturally" exhibit behavior which indicates group loyalty, personal interest, desire for power, deference to leaders, and so on; and that politics also involves creative choice with respect to public policy. It takes professional political scientists to confound the issue. For a great debate rages, or at any rate has been raging, over whether politics should be understood in terms of a set of general statements about the ways in which all people behave in group situations or in terms of the principles involved in making wise policy choices. In the name of intellectual purity there is a strong inclination for each side to try to drive the other out—on the one side into philosophy and law and on the other into sociology and psychology. There are, it is fair to say, a considerable number of would-be mediators to be found in political science, mediators who argue that both aspects should be included in the study of politics. Most of the time, however,

* I try to shed some light on this matter in the introduction to *Plato: Totalitarian or Democrat?* (Englewood Cliffs, N.J.: Prentice-Hall, 1963) and in Chapter 9 of *The Logic of Democracy* (New York: Holt, Rinehart and Winston, 1962), reprinted in Bishop and Hendel, *Basic Issues of American Democracy* (New York: Appleton-Century-Crofts, 1965), pp. 102–110.

that his view was not and could not have been based upon a full-blown evolutionary conception and that therefore his argument (and, for that matter, Maritain's as well) falls into the philosophical difficulties just discussed. Both Aristotle and Maritain are centrally involved in inductive leaps in the direction of the "essence" of man while the empiricist stands by with his deadly logical hatchet slashing the bridge to pieces.

11

But the evolutionary perspective, particularly in the hands of contemporary students of animal behavior, dulls the hatchet, or more properly perhaps, puts the empiricist in such a position that his wild swings are likely to cut off his own legs. For careful observation and fieldwork, the mainstays of applied empiricism, show beyond much doubt that in an important sense of the term there are "by nature" a good many kinds of "political" animal. If we take the standard criteria for statehood—population, territory, government—as a guide, it would not be unreasonable to suggest that animals who live in groups, occupy and defend a certain territory, and exhibit a hierarchy of dominance inside the group could be called "political" animals. I am, of course, using the term "political" very loosely here. We are, after all, still trying to decide how it ought reasonably to be employed.

The fact is that these characteristics—group life, defense of territory, and dominance hierarchy—are in evidence in one form or another throughout a wide portion of the animal kingdom. It is very tempting, therefore, to make some sort of general statement such as: In the higher animals, and especially the primates, a style of life which can be called "political" is present. In so doing, however, we must mind our philosophical *p*'s and *q*'s. What we are saying is simply shorthand, an economical mode of expression designed to establish perspective; it is not a general law of behavior. Nothing, strictly speaking, can be deduced from it. I remarked some time ago that the ethologists—the students of animal behavior—do not typically fall into the universal generalization model of explanation and, thus, have little difficulty with what we described earlier as Easton's Paradox. The reason is simply that these scientists operate within the pattern of explanation which is appropriate to their subject matter, namely, the evolutionary pattern.

Robert Ardrey, who has done us all a great service (whatever one may think of his particular conclusions) by bringing together the findings of the ethologists, the palaeontologists, the geologists, and the evolutionary biologists in his two books *African Genesis* and *The Territorial Impera-*

feathered. The female arrives first at the breeding grounds and conducts the territorial scramble. The male arrives later and incubates the eggs while she defends the home place. The system works and evolution shrugs.*

Evolution shrugs indeed, and this makes universal statements of more than a summary nature absurd. It also presents me with a difficult problem of exposition. Describing all of the evidence relevant to understanding the ways in which animals, and particularly the human animal, are "by nature political" would require an extensive narrative which would clearly be out of place in the present context. There is at the moment no book which undertakes this precise task, but the works of Ardrey and Lorenz cited above will serve well until a more explicitly political book comes along.

12

We shall, then, although not without a certain measure of regret, leave the details of the animal behavior studies to the exposition of Ardrey and Lorenz. The point for us is a straightforward one, and the evidence for it is overwhelming. We observed a few pages ago that evolution works not only by selecting favorable anatomical and physiological characteristics but also by selecting favorable patterns of behavior. These are not separate processes of selection; they are inextricably intertwined. In the case of man the relatively defenseless body, the upright stance, the prolonged period of infancy all go together with the big brain. This combination of characteristics would have long ago perished in the abyss of time had it not been for the factor to which they are inextricably tied, social behavior. One can make a logical argument for this statement; for example, the use of the big brain implies an opportunity to learn (the prolonged period of infancy) which implies the capacity to teach which implies society. While such an argument is sound enough as far as it goes, the relevant evidence is by no means just a matter of logic. Man did not invent society to serve his particular purpose. Nature invented it long before man came on the scene to serve her own purposes.

Who is Nature?

The factors mentioned earlier—group living, defense of territory, and intragroup dominance—are to be found in varying combinations and styles throughout the higher reaches of animal development. It is fair to say, moreover, after recording the suitable note of caution, that the closer the animal gets to man in a physiological, anatomical, and evolutionary sense, the more these factors are arranged in a human way. Certain kinds of monkeys, baboons, and chimpanzees are, as might be expected, the most comparable cases. The evidence strongly suggests, therefore, that not only can man reasonably be called a "political" animal, he is in a real sense "by nature" a political animal in the same loose sense that monkeys, baboons, and chimpanzees are political animals.

There seems to be little doubt that these characteristically "political" modes of behavior are in animals lower than man instinctively determined. It is a little hard to imagine a baboon social contract or constitutional convention. If Ardrey and Lorenz are to be believed, and their arguments and evidence are powerful, there exists, lingering in man as a part of his evolutionary heritage, in some sense a group instinct, a territorial instinct, and an instinct to dominance. These are the foundation stones of society and in a curious way these instincts are what gives modern universal-generalization social science whatever force it has.

There are to be sure in a general way certain kinds of regularities in human behavior, both individual and social. Some are derivative of biological inheritance and some of cultural inheritance, but none is a universal law from which precise predictions can be deduced. It is a philosophical irony of the grandest sort that those truths about, say, learning behavior that can be established as correct by behavioral psychology are probably the results of an instinctive pattern whose existence behavioral psychology denies on principle. Structural-functional anthropology begins by denying the relevance of evolution on methodological grounds and then proceeds to discover the functions and structures produced by evolution. While it is surely true that universal-generalization social science sometimes comes up with the right answers, it suffers from one fatal flaw. It cannot *in principle* tell a genuine regularity from a merely apparent or transitory one. When one is methodologically restricted to scratching the surface, it is impossible to tell whether the nugget was dropped in this particular place by an itinerant prospector or whether it sits atop a rich vein.

13

no, use the term "nature."

We have in the last few paragraphs played fast and loose with the term "political." For in the human context we surely mean more by "political" than a tendency toward group behavior, territorial defense, and intragroup dominance. If man is properly to be understood as the product of an evolutionary process, first biological, then cultural, we have touched so far only on the biological part of politics. We are now ready for the creative, cultural part. The division here between biological and cultural is only an expositional division; it is not a natural dichotomy. In this sense man is "by nature" a political animal not only in an instinctive sense, but

* From *African Genesis* by Robert Ardrey. Copyright © 1961 by Litertat S.A. Reprinted by permission of Atheneum Publishers.

also in the creative sense—for a culture-creating animal is the sort of thing that nature has produced under the title man.

On this subject let us quote cultural anthropologist Elman R. Service:

> Man is a vertebrate, mammalian, and primate animal. That is what man *is,* and the fact should never be lost from account. Yet there is something peculiar about man. The usual way of stating it is to say that man has culture, or that he has symbolic communication which results in culture. These are ways of saying that man himself has somehow added to the purely biological and situational determinants of his behavior certain others of his own invention which have increasingly involved his individual self-interests in a simultaneous commitment to his fellows. This is not always nor exclusively the case, of course, for man is still an animal, but so often and so strikingly is it so that much of philosophy and religion as well as several sciences have been concerned with the unique aspects of man's behavior rather than with the biological continuities which ally him with the other primates.
>
> The difficult subject at hand now is to discuss, or speculate about, the continuities and discontinuities of the man-primate relationship in the most pertinent context, the origin of human social culture. It is not "mere" speculation to do this, however, for there is information about primate social life, about early man in the archaeological record, and about early types of society retained by some ethnographically known hunting-gathering bands. These items, however sparse, can be used to temper the speculation.
>
> The phrase "human culture" is redundant. Culture is human and only human. It depends on an as yet inadequately defined mental capacity of human beings to communicate with each other and, correlatively, to think imaginatively in ways that apparently no other animal can. Other animals communicate and "think" but in no case can it be shown that they relate future times, other places, and even nonexistent things and places with each other. This mental gymnastic has been called the "symbolic capacity" by the ethnologist L. A. White (1949) and has been discussed in other ways by linguists (as grammar, for example, by Greenberg, 1959) and by philosophers (especially Cassirer, 1944). For the present purpose, the salient feature of man's symbolic capacity is that with it he socially creates determinants of his own behavior; that is, he invents and communicates cultural rules and values which influence his social life. This is the point at which certain subhuman abilities and propensities are emphasized, submerged, or altered, and discontinuities between subhuman primate and human behavior arise.
>
> It sounds paradoxical, or perhaps illogical, to describe culture as a determinant of the behavior of the very species that created it. But if we distinguish between the origin of a trait and its later symbolic existence as a part of an ongoing cultural tradition, then we can speak of it in this latter phase as constituting a determining factor (among others) in the behavior of every new member born into the society. It is a part of the "social heritage." Thus the statements "Man creates culture" and "Culture creates man" may be equally apposite, though opposite, generalizations.*

* Elman R. Service, *Primitive Social Organization* (New York: Random House, 1962), pp. 34–35.

We have earlier described cultural evolution as a socio-genetic system, that is, as a social system for the transmitting of information from generation to generation. Society as a survival mechanism necessarily involves the transmission of a good deal of complicated information, for each individual must somehow be carefully instructed as to his proper role if the advantage of social life is to be exploited. Nature seems to have begun the use of society at the genetic level, elaborately instructing individuals by means of instinct.

The insect group which branched off from the tree of life at a much earlier stage than the mammals has over time developed extremely complicated forms of social behavior purely on the basis of instinct. For reasons discussed earlier, the big brain as a tool was not available in the passageway of the insects. In the warm-blooded line, however, the physiological device called the brain has made possible a combination of instinct and learning. Investigation of all of the possible and all of the actual combinations of instinct and learning has just begun, but it is nonetheless possible to conclude that the larger and more complicated the brain the greater is the reliance on learning. Again, I speak only in shorthand. Evolution works pragmatically and not in accordance with the human inclination for neatness and generality.

Ardrey reports an experiment conducted by the South African naturalist Eugene Marais. Marais separated an infant otter and an infant baboon from their fellows and their natural environment for three years. He then returned each to its natural state. The otter, although he had never before seen a body of water, hesitated for a few seconds, plunged in, and shortly caught a fish. The baboon on the contrary was helpless, frightened in fact of his natural food, and had to be rescued from disaster by Marais.

Man is learner *par excellence* and the evidence suggests that he built culture upon the patterns established by his primate ancestors who relied more heavily, but certainly not exclusively, on instinct.* According to Service:

> The acquisition of culture depended upon a development of the primate brain to the point which made possible the use of symbols in communication and thought. With symbols humans can plan ways to cooperate and create means to enhance and perpetuate the cooperative relationship. . . . Once symbolic thought and communication become possible new determinants of behavior can be invented on the basis of evidence or knowledge which is already present. Sanctions, rules, proscriptions, and values can be created and established which inhibit conflict and strengthen solidarity. . . . The few

* Ardrey's report of the evidence concerning *australopithecus africanus,* the extinct man-ape of the African savannahs is most illuminating. See Ardrey, *African Genesis.*

forms of social dependence found in ape society could, by cultural means, be greatly extended and intensified. Data from all known human groups attest to the enormous importance of sharing as a means of creating friends and allies or of strengthening existing amiable relationships. The more primitive the society and the more straitened the circumstances, the greater the emphasis on sharing, and the more scarce or needed the items the greater the sociability engendered. All that was necessary, then, was the symbolic ability to make some rules and values which would extend, intensify, and regularize tendencies which already existed.*

14

Because nature is pragmatic, it does not follow in any simple way that man is also pragmatic. Freud's suggestion that nature's production of the human being was a "careless and uneven piece of work" has to be taken seriously if somewhat poetically. Freud seems to have carried *in his mind* a standard of perfection, of neatness, of regularity that in his judgment nature did not meet. But, as we have argued, nature possesses no such standard of perfection or regularity. Only the human intellect demands neatness and with this statement Freud demonstrates a powerful aspect of his humanity.

And where does he take this standard from?

I take it, however, that this is not what Freud intended to point out when he made the statement. What he meant to suggest is that nature did not provide men with basic equipment fitted precisely to his needs. Freud being Freud we can be sure that he was particularly struck by the fact that the human sex drive was far more powerful and pervasive than it needed to be for the task of reproduction. The whole of Freudian analysis follows from this premise and who can deny that he was in some measure correct.

Konrad Lorenz makes a similar point with respect to aggression. Animals, Lorenz argues, whom nature has provided with powerful weapons have also developed inhibitory instincts which prevent destruction of the species by the species itself. Lorenz contrasts wolves and doves. Wolves, powerfully equipped for bloodletting, while they engage in frequent contests for dominance almost never fight to the death. A dominance contest between two male wolves always ends with a ritual. The loser positions himself in a certain way relative to the winner and deliberately exposes his throat, the most vulnerable spot on his body. The winner snarls and nudges, but *he does not bite*. Dominance contests among doves imprisoned by man so that the loser cannot retreat result in carnage of a most brutal and final sort. Lorenz concludes that man has a special problem. Whatever

* Service, *Primitive Social Organization*, pp. 41–42.

inhibitory instincts he has do not and cannot mitigate man's aggression when that aggression is manifested through extensions of the human body, namely, weapons whether they be bows and arrows or hydrogen bombs. Thus, again one might say that evolution's combining aggression with the big brain and the opposable thumb was an uneven and careless piece of work.*

Whether he satisfies our inclination for neatness or not, whether we understand him as an uneven and careless piece of work or not, from the point of view of evolution the human animal has "worked," that is, he has survived, which from evolution's point of view is the only thing that counts. What about the intellectual faculty itself? Do we really want to subscribe to the notion that this piece of equipment is some sort of ethereal spirit unattached to nature? What plausible reason could there be for such a bizarre conclusion?

Claude Lévi-Strauss begins his book *The Savage Mind* ** with an extensive cataloguing of the inclination of primitive peoples to engage in the most elaborate classification of the world around them. He cites the reports of a wide variety of observers in different parts of the world. Lévi-Strauss, by way of example, quotes the observations of a prominent ethnologist studying the Indians of the northeastern United States and Canada who emphasizes the wealth and accuracy of the Indians' zoological and biological knowledge and then continues:

> Such knowledge, of course, is to be expected with respect to the habits of the larger animals which furnish food and materials of industry to primitive man. We expect, for instance, that the Penobscot hunter of Maine will have a somewhat more practical knowledge of the habits and character of the moose than even the expert zoologist. But when we realize how the Indians have taken pains to observe and systematize facts of science in the realm of lower animal life, we may perhaps be pardoned a little surprise.
>
> The whole class of reptiles . . . affords no economic benefit to these Indians; they do not eat the flesh of any snakes or batrachians, nor do they make use of other parts except in a very few cases where they serve in the preparation of charms against sickness or sorcery.†

* Lorenz's suggestion that man is unique because he alone practices intraspecific aggression, that is, kills his own kind, is somewhat more dubious. It makes too much of the fact that man is biologically one species. Given the dominance of the cultural component in human behavior, we should perhaps think in terms of cultural speciation (speciation by language and cultural group) in terms of which man probably doesn't act much differently than any other animal.

** Published in the United States by University of Chicago Press. Copyright 1967 by University of Chicago Press.

† F. G. Speck, "Reptile Lore of the Northern Indians," *Journal of American Folklore*, vol. 36, no. 141, Boston-New York, 1923, p. 273.

ural order or to be surprised at Aristotle's acceptance of the premise of order. For Aristotle is a man like those that we have come to call primitive, and so even are modern scientists.

We all know, when we reflect on it, that uncertainty and inconsistency fill us with the same sort of vague anxiety induced by failure in achieving status or rejection by the opposite sex. Reflect on the universality of religion or on the easily observed fact of contemporary American life that frustration breeds the fanatical, consistency-at-all-costs political understanding of the senile Old Right and the infantile New Left. The inclination to "put things together," to achieve a consistent, universal view is part of man's natural state, and when it comes to seeing the world as it is we may perhaps note another aspect of Freud's notion of the "uneven and careless piece of work."

Ashley Montagu describes nonliterate man and his intellectual processes:

> What happens is reality to the non-literate. If ceremonies calculated to increase the birth of animals and the yield of plants are followed by such increases, then the ceremonies are not only connected with them but are part of them; for without the ceremonies the increase of animals and plants would not have occurred—so the non-literate reasons. It is not that the non-literate is characterized by an illogical mind; his mind is perfectly logical, and he uses it very well, indeed. An educated white man finding himself suddenly deposited in the Central Australian desert would be unlikely to last very long. Yet the Australian aboriginal manages very well. The aboriginals of all lands have made adjustments to their environments which indicate beyond any doubt that their intelligence is of high order. The trouble with the non-literate is not that he isn't logical, but that he applies logic too often, many times on the basis of insufficient premises. He generally assumes that events which are associated together are causally connected. But this is a fallacy which the majority of civilized people commit most of the time, and it has been known to happen among trained scientists! Non-literates tend to adhere too rigidly to the rule of association as causation, but most of the time it works. . . .*

16

We ought now to be able to see that the scientific culture which we in the contemporary West take so much for granted, which in fact we take to be the intellectual standard of the universe is an abnormal and unusual state of affairs, a special case, when viewed against the 16,000 years or so of distinctly human development. The method of science is a set of rules

*Ashley Montagu, *Man: His First Two Million Years* (New York: Columbia University Press, 1969), p. 200.

however, answers have typically been overstated—in terms of *the* key to history—this does not detract from the overriding importance of the question. Notice that the typical explanation tends to lay stress on changes in the environment to which men react in a new way. But culture is not something which occurs in the physical environment—a climatic disturbance is not culture—it is something which occurs in the process of communication between men and between generations. There can be little doubt that the invention of the steam engine made a great deal of difference to the modern West, but saying this does not speak to the question of what circumstances would make a man want to invent a steam engine, know what he had done, and want to communicate this information to others. And even more importantly, what circumstances allow or persuade a man to want to invent anything at all? So far as we know, Buddhist monks have never been interested in inventing anything whatsoever.

Lately we have begun to hear a line of argument which stresses the impact of changes in the form and style of the cultural communication process itself.* An alteration in the physical environment cannot become culturally significant unless it is in fact reacted to, grasped, and communicated by man—and any understanding and communication of that understanding can only be done through the means of communication available. If we look back over the development of Western man we can discern stages in the development of means of communication. They overlap and merge in various ways, but stages are recognizable nonetheless.

Earliest communication was undoubtedly almost entirely oral, supplemented, of course, by gestures. This oral period is by far the longest, constituting by definition the whole of human prehistory. Then pictographic or ideographic writing developed, first on stone and clay and later on more portable substances. This was presumably an extension of early graphic representations like those which have been discovered in the caves of Spain. For the West the next important step was the development of a phonetic alphabet by the ancient Semites. This, it is interesting to note and it may indeed be profoundly significant, is a step which the Chinese never took. The Greeks grasped the phonetic alphabet, adapted it to their fertile oral tradition, and the West has never been the same since. There follows an extended period in which culture was carried by the copying, recopying, and reading aloud of manuscripts. The portability of written messages and regulations literally made the Roman Empire possible. The fact that Christianity not only survived but conquered the barbarians is closely related to Christianity's control of information through its nearly

* See especially Harold A. Innis, *Empire and Communication* (Oxford at the Clarendon Press, 1950), *The Bias of Communication* (Toronto: University of Toronto Press, 1951), and Marshall McLuhan, *The Gutenberg Galaxy* (Toronto: University of Toronto Press, 1962).

exclusive possession of the ability to deal with manuscript. And then, at the dawn of the modern era came Gutenberg and the printing press. I shall, for the moment at least, leave the development of radio and television to Marshall McLuhan who deals with it so imaginatively.

That the printing press created the public and the possibility of mass politics is, I think, so obvious that in one sense it scarcely needs discussion. And it certainly has not been discussed at least by social scientists. Western society and its politics—and preeminently that of the United States—grew up with the printed word; but because we have not taken time and cultural evolution seriously, we have built up elaborate accounts of Western politics and then been shocked to discover that they did not apply to the essentially oral cultures of Africa or the manuscript cultures of Asia.

I shall say more about these matters in the next chapter. Let us now return to the problem of classical and modern, of Aristotle and Hobbes. When we talk in broad categories such as classical and modern, we are, as our earlier discussion has clearly indicated, dealing with all-encompassing matters of perspective, with fundamental modes of thought. My contention, which follows upon the insights of Innis and McLuhan, is simply that the dominant means of information transmission conditions, primarily by its form, the dominant mode of thought. A good many writers on epistemology have accepted the notion of Kant that the human world is defined and delimited by the structure of human thought. What they have not typically noticed, however, is that the structure of human thought has not always been the same, that the very structure of thought is affected by the way in which information moves from person to person.

The culture of the Athens of Socrates, Plato, and Aristotle was essentially oral, or more broadly what McLuhan calls audile-tactile. From the point of view of political theory the center of attention was the polis and the polis was understood as a natural and an oral phenomenon. It was speech (not writing), according to Plato and Aristotle, that opened the possibility of fullest human development. Socrates wrote nothing, Plato presented his ideas as speech transferred to writing (the dialogue form), and Aristotle's "writings" are said to be notes taken by his students.

Aristotle did not receive information by poring over the printed pages of an Encyclopaedia Britannica. He was not, and could not have been, the detached observer *looking* out at the world through the medium of the printed, and thus wholly visual, proposition. The world was all around him—he heard it, he felt it, he saw it, he smelled it, and all of these at once. Ethnologists of almost every description and opinion stress the unity of nature in the primitive mind, the lack of distinction between subject and object. We quoted Lévi-Strauss a few moments ago noting that the important thing from a primitive point of view was whether or

not there was a perspective from which a woodpecker's beak and a human tooth could be seen as "going together." We must recognize that Plato and Aristotle for all their towering achievement were from an evolutionary point of view just a step or two from the primitive. Should we then be surprised that Plato assumed that because there was a noun "justice" that there must be something in reality that corresponded to it.

You may very well be thinking something like this: "Aristotle was not the only one who had the world all around him. I smell, feel, hear, and touch things as well!" But think a little further. Our whole culture is built upon seeing behind the appearances. We are *taught* and we *learn* to realize that the roar of the automobile is incidental to the chemistry of gasoline combustion and to the physics of the piston rod. Aristotle did not think by holding a printed proposition before his mind and seeing how it relates to reality, but we do. Learning for us simply *is* a matter of mentally taking something apart and seeing how it "works." This does not encompass all that we learn and know, but it is its core. Print and all that goes with it is the dominant form of information transmission for us and it creates the dominant mode of our thinking. This was not so for Aristotle. Suppose that all of your experiences were like church services and none of them like classes in symbolic logic. Would you think differently or not?

Descartes and Hobbes were men of genius and they caught early the implications of the new way of thinking implicit in the printed, visually dominant, method of information transmission. Descartes and Hobbes responded quickly and began to think *objectively* in a way that only makes sense in the modern world. How can I prove that I exist? What kind of weird question would this be to a man swallowed up in nature? What would man be like in a completely pregovernmental situation, in a state of nature? What sort of strange question would this be for a man to whom man was by nature a political animal?

In this sort of context summation is dangerous, but let me nonetheless attempt a crystallization that will allow us to proceed. Modern society and modern culture—that which began in Europe around 1500 A.D.—is built around the detached observer. It is only the detached observer who can attempt to conceive natural processes as a whole, who can consider a manufacturing-marketing process as a whole with the interworking of all of its parts, and who can conceive the governing of a large number of people over a large territory as a whole problem. Conceiving a political system as a whole and attempting to build one in the style of Hobbes or Madison requires a position of detachment like a man observing an ant colony.

Print, which concentrates information transmission into the visual sense, creates this position of detachment. Consider the forest fire sequence in

Walt Disney's *Bambi*. What would it be like if this had to be transmitted to us through the sense of touch or smell? I defy you to be detached from a forest fire communicated by the sense of touch, but because *Bambi* comes to us visually, we can be detached, we can consider the action from the outside.

Aristotle operating as a man in nature is not bothered by the jump from "some" to "all" involved in the proposition, "Man is by nature a political animal." He hears it, he feels it, he sees it, all at once and thus he *knows* it. We, however, in our detached position hold the *words* before our "mind's eye" and we immediately see the difficulty in moving from "some" to "all." Aristotle was not a fool—he knew the difference between "some" and "all"—but because he understood the world from another perspective the difference did not dominate his whole mode of thinking.

Indeed, he also knew the difference between Greeks (Zoles) and Barbarians!

17

The phenomenon of politics, then, is not something for which we can provide an any-time-any-place definition. It occurs in time. It is rooted in our biological nature and it has evolved as culture has evolved. It involves instinct and natural human inclination, but it also involves creative thought and thought has not always been the same. Neither is it the same throughout the world. In 1969 we can be conscious of print culture politics rubbing against oral culture and manuscript culture politics. We can perhaps begin to make sense of our politics—that is, the politics of we humans and not simply we Westerners—if we tear ourselves loose from print culture science and begin to look at man in the whole sweep of nature.

We cannot begin to say all that can be said let alone all that needs to be said. But we can say something. To this task the next chapter will be devoted.

The final chapter will take up an even more mysterious consideration. If we have moved through oral culture, manuscript culture, and print culture in the Western world, from what perspective are we now looking at the world and at politics?

their environment according to their perception of the environment and the changes in it. And the nature of perception, as we have already noticed in a wide variety of contexts, is substantially determined by the cultural tools available. Thus, the mechanical paradigm was available to Newton and Madison in a way that it was not to Aristotle or Confucius. A man in politics whether he be theorist or actor or both will react to problems according to the way in which his cultural equipment allows him to perceive them. I do not by these remarks mean to suggest a rigid determinism anymore than a geneticist would suggest that mutations are determined. On the other hand it is scarcely conceivable that a tadpole will come into the world equipped with a pair of feathered wings.

The relationship between the evolution of political orders and the evolution of culture is not at all simple. We can begin by suggesting a case in which a change external to culture (for example, in the physical environment such as a substantial alteration in climate or an earthquake that brings a river to the surface) produces a general culture change which in turn affects the political order. This is straightforward enough, but we cannot leave the matter here. The cultural situation prior to the coming of the environmental change will affect the perception of the change, so that two cultures might react quite differently to the same sort of external alteration. The implication of the foregoing statement is quite important, for what it shows is that technological change is not external change but cultural change. Technology is human artifice and thus it is part of culture, determined and produced by standards or modes of perception that are also part of culture. Put this way the point may seem an obvious one. It is important, however, to be explicit about it, because the notion that technology (interpreted broadly to include all of the ways in which man uses the physical environment) is part of culture flies in the fact of what might be called vulgar Marxism. Karl Marx was no doubt a subtler and deeper man than many who followed him, but even he, insofar as he suggests that culture is but a superstructure built upon a foundation of the means of production, builds upon a notion that is profoundly wrong.

It is easy enough to understand the appeal of what can be described as the materialist interpretation of cultural evolution whether it be in the form of some variant of economic determinism or the more sophisticated notion of some twentieth-century anthropologists who suggest that cultures evolve toward greater utilization of energy. Such pronouncements have the ring of science and the scent of moral neutrality about them and this no doubt adds to their persuasive leverage. Technology is beyond any doubt basic and central to cultural evolution, but it is not external. It is a mistake therefore to treat technology as if it were *an* or *the* external cause of cultural change.

Give some careful thought to the following passage from Waddington:

> For the content which in man is passed from one individual to another by the use of language symbols it is conventional and convenient to use the word "culture." This word has passed through many vicissitudes, even in the recent past. Sometimes it is employed in a restricted sense, to apply only to what we regard as the higher flights of civilization but this usage is becoming less common at least in scientific circles. Archaeologists use it with particular emphasis on the material possessions—the "material culture"—of a people. But it should be noted that the material artefacts of a human society are by no means independent of the content of their verbal interchanges. This is well brought out by considering the definition of man which is generally accepted by palaeontologists and students of stone implements. Man, they say, can be described as the primate which makes tools of definite and standardized patterns. Every part of this definition is necessary. The criterion must be tool-making, not tool-using, since many lower animals (for instance, one of the species of Darwin's Galapagos finches or the California sea-otter) may use natural objects as tools. Again, some non-primates make artefacts which can be regarded as tools and which are of standardized patterns, for instance, bird's nests. Finally, some primates, such as apes, may make tools but to non-standardized patterns, such as by fitting sticks together or breaking a stick to convenient length. But man makes tools to a standardized pattern; and the standardization is not laid down through inherited instinct, as in birds, but is transmitted to him through the mechanisms of social communication. *Thus, his material culture is a manifestation of the content of the communications being carried on in his society.**

We can say then, as indeed I strongly suggested in the preceding chapter, that the mode and content of communication is at the center of culture and therefore of any account of cultural change. If this is true, as Waddington argues, of material artifacts, then how much more true must it be of politics which, after all, is a predominantly verbal activity. Before pursuing the implications of this observation in greater detail, it is necessary to make an important distinction with respect to the nature of the evolutionary process itself.

2

In a book called *Evolution and Culture*** edited by anthropologists Marshall D. Sahlins and Elman R. Service attention is very acutely called to two aspects of the evolutionary process: the Specific and the General. The distinction can, by way of introduction, be clearly made in the area

* C. H. Waddington, *The Ethical Animal* (New York: Atheneum, 1961), pp. 146–147. (Italics added.)

** Ann Arbor: University of Michigan Press, 1960.

moreover, further stages can be discriminated on criteria of social segmentation and integration. On the primitive level, the unsegmented (except for families) and chiefless *bands* are least advanced—and characteristically, preagricultural. More highly developed are agricultural and pastoral tribes segmented into clans, lineages, and the like, although lacking strong chiefs. Higher than such egalitarian *tribes,* and based on greater productivity, are *chiefdoms* with internal differentiation and developed chieftainship. Similarly, within the level of civilization we can distinguish the *archaic* form—characteristically ethnically diverse and lacking firm integration of the rural, peasant sector—from the more highly developed, more territorially and culturally integrated *nation state,* with its industrial technology.

General progress [they continue] can also be viewed as improvement in "all-around adaptability." Higher cultural forms tend to dominate and replace lower, and the range of dominance is proportionate to the degree of progress. So modern national culture tends to spread around the globe, before our eyes replacing, transforming, and extinguishing representatives of millennia-old stages of evolution, while archaic civilization, now also falling before this advance, even in its day was confined to certain sectors of certain continents. The dominance power of higher cultural forms is a consequence of their ability to exploit greater ranges of energy resources more effectively than lower forms. Higher forms are again relatively "free from environmental control," i.e., they adapt to greater environment variety than lower forms. . . . By way of aside, the human participants in this process typically articulate the increasing all-around adaptability of higher civilizations as increase in their *own* powers: the more energy and habitats culture masters, the more man becomes convinced of his own control of destiny and the more he seems to proclaim his anthropocentric view of the whole cultural process. In the past we humbly explained our limited success as a gift of the gods: we were *chosen* people; now we are *choosing* people.*

Notice now that we are here presented with a rather loose and general *set* of stages in General cultural evolution: the band, the tribe, the chiefdom, the archaic civilized form, and the nation-state. Notice further the correlation (I want very carefully to avoid imputing any sort of simple causal relationship) between these stages and the dominant mode of information transmission. The band, the tribe, and the chiefdom are stages differentiated by the anthropologist within the general category primitive and the socio-genetic system is oral. The so-called archaic category obviously encompasses a wide diversity of particular instances—everything from the civilization of the Tigris-Euphrates, to the Roman Empire, to nineteenth-century China—but remember the authors are talking about General evolution. What unites these diverse examples from the point of view of Sahlins and Service is their common range of energy exploitation. But observe as well that what unites them is the fact that the dominant

* Sahlins and Service, *Evolution and Culture,* pp. 36–37.

geological (more precisely, palaeontological) sense may appear to be lengthy and slow in terms of a human lifetime or a generation.

The appearance of life and of man were the two fateful transcendences which marked the beginnings of new evolutionary eras. They were, however, only extreme cases of radical innovations, other examples of which are also known. The origin of terrestrial vertebrates from fishlike ancestors opened up a new realm of adaptive radiations in the terrestrial environments, which was closed to water-dwelling creatures. The result was what Simpson [G. G. Simpson, *The Major Features of Evolution* (New York: Columbia University Press, 1953)] has called "quantum evolution," an abrupt change in the ways of life as well as in the body structures. Domestication of fire and the invention of agriculture were among the momentous events which opened new paths for human evolution.*

I am suggesting here that insofar as cultural evolution is at core a matter of information transmission, then the way in which information is stored and transmitted is likely to be pivotal in understanding how human life has evolved—more important perhaps than fire or agriculture or gunpowder, although this is surely a matter open to discussion. Note again the inappropriateness of generalizing in this context. One simply cannot say—as Dobzhansky rightly points out—that given the presence of land certain fish will find a way to walk on it. Nonetheless, the evidence is strong that certain fish did learn to walk on their fins, and that once this happened the character of life was radically transformed. Similarly, I do not suggest that the introduction of print will necessarily produce modern Western consequences; only that mankind entered a new era in Europe with the coming of print, and, in the same way, we are just beginning to realize what is happening to us now that electronic communication is circling the globe.

One further point ought to be noted. Given the power of modern means of communication, no presently underdeveloped area of the world can ever develop "modernity" in quite the way that the West did just because the people of the area cannot but *know,* in some measure at least, how the West developed over the last several hundred years. Looked at as a matter of evolutionary thresholds this situation makes perfect sense. Searching, however, for general laws in this context can end only in vagueness or frustration.

6

If we wish to understand the politics of any particular human group, we must deal with a matter of Specific Evolution. If in particular we are interested in the politics of the West we must take account of the specific

* *The Biology of Ultimate Concern,* p. 50.

steps which the peoples of the West have taken, recognizing clearly that the steps are specific. We must resist the temptation to make the steps into a general theory of the political development of all Western peoples and certainly not of non-Western peoples. The Swedish people have not produced their political forms along precisely the same lines as have the English, the French, or the Spanish and the search for truth makes it mandatory that this fact be taken seriously.

On the other hand, however, the fact that political forms are related to media of communication and that they are diffused through media of communication makes it possible to discuss successive patterns within a particular cultural context. If we begin a discussion of Western political forms with the Greeks, we must notice, first of all, that the polis is the highest form of oral culture politics. We have no less an authority for this point than Aristotle himself. After having discussed the household and the village, Aristotle suggests in Book I Chapter 2 of the *Politics* that, "The final association, formed of several villages, is the city or state." "It follows," he continues

> that the state belongs to a class of objects which exist in nature, and that man by nature is a political animal; it is his nature to live in a state. . . . Nature, as we say, does nothing without some purpose; and for the purpose of making man a political animal she has endowed him alone among the animals with the power of reasoned speech. Speech is something different from voice, which is possessed by other animals also and used by them to express pain or pleasure; for the natural powers of some animals do indeed enable them both to feel pleasure and pain and to communicate these to each other. Speech on the other hand serves to indicate what is useful and what is harmful, and so also what is right and what is wrong.

As Aristotle recognized, although of course he could not have seen its significance, the polis like primitive society was built upon speech as a means of communication. It is obvious enough that the polis as a face-to-face society was limited in size and development by the limitations of speech. What is not so obvious, however, is that the form of political thinking which is exemplified by Plato and Aristotle was also conditioned by speech. Only a few scholars have grasped the explanatory power of this simple fact.* Leo Strauss perhaps sees the point which I want to make when he says that, "Classical political philosophy is characterized by the fact that it was related to political life directly." There was, Strauss suggests, for Plato and Aristotle no intermediary in the form of a written

* See, in particular, Eric A. Havelock, *Preface to Plato* (Cambridge, Mass.: Belknap Press of Harvard University, 1963) and, of course, McLuhan, *The Gutenberg Galaxy* (University of Toronto Press, 1962) cited earlier, and Innis, *Empire and Communication* (Oxford at the Clarendon Press, 1950), and *The Bias of Communication* (University of Toronto Press, 1951).

supplemented them with those from Rome. Durable parchment books could be moved over long distances and transferred from regions of danger to regions of safety.*

8

Parchment became the medium through which religion established intellectual authority. As we have suggested, a style was established, a paradigm erected, which only a substantial change in circumstances could demolish. That change, of course, came in the form of mechanized printing and we must now say a word or two about the introduction of a crucial factor which helped to call the printing press into being, namely paper.

While paper was invented by the Chinese, the printing press (in the modern sense) was not. It is instructive to attend to this somewhat curious fact. "Discovery of the technique of making paper from textiles," Innis suggests, "provided a medium with which the Chinese, by adaptation of the brush for painting to writing, were able to work out an elaborate system of pictographs. A system of four to five thousand characters was used for ordinary needs 'enabling those who speak mutually unintelligible idioms to converse together, using the pencil instead of the tongue.' Its effectiveness for this purpose meant the abandonment of an attempt to develop an alphabet system." **

In the putting together of this book I have, of course, reflected a good deal on the thesis concerning media of communication which I have been attempting to present in the last several pages. No facts which I have come across persuade me of its essential soundness more than those involved in the comparison of Western civilization with that of the Chinese.

We must begin by noting that contemporary China is no mere nation-state like those of Europe; it is more properly described as a "civilization-state." † It is as if all of Europe including European Russia had been united under a common government more or less continuously for three thousand years. The Chinese with a population of comparable size with comparable linguistic differences spread over a land mass of comparable vastness with climatic differences of comparable proportions did not split up into nation-states. Neither did Chinese civilization for all its sophistication lead the world into the modern era. The Chinese invented paper and began to use it for writing in about 105 A.D. They thus were in possession of what Innis would call a space-biased medium and they used it

* *The Bias of Communication,* pp. 48–49.

** *The Bias of Communication,* p. 50.

† See the very interesting book by François Geoffroy-Dechaume, *China Looks at the World* (New York: Pantheon Books, 1967).

in a way comparable to the Roman use of papyrus. In addition the Chinese pictographic script was itself integrative; it pictured ideas rather than sounds, it was interlinguistic rather than phonetic.

Geoffroy-Dechaume who knows China but so far as I can tell knows nothing of Innis or McLuhan speaks to the point in the following way:

> WRITING. This fixes language and thought. Writing thus makes possible the transmission and enrichment of the spiritual heritage through the course of ages. Without writing there can be little history; without it no long-distance organization, no enduring laws are possible, there can be no continuous progress. Through language, to which it gives material form, writing remains closely linked to the biological factors of which it is, as it were, the projection. The thought and culture which it sanctions spread by its means and gradually over the whole area which is being civilized. Indeed, the emergence of writing may be said to represent, in the evolution of humanity, a threshold of consciousness comparable to the genetic mutation which gave rise to *homo sapiens.* We witness the appearance of this invention in many parts of the globe without being able to ascribe a definite origin or origins to it, any more than to the various races of mankind. Phoenician writing, which absorbed Egyptian elements, spread throughout the world supplanting cuneiform and hieroglyphic scripts and producing the Greek, Roman, Arabic, and Sanskrit alphabets, but it failed to penetrate China!
>
> . . . China invented her own form of writing, her own cities, her own manifold techniques, and her originality is thus threefold and appropriates all foreign elements, subjecting even religions—Buddhism for instance, and Marxism in our own day—to radical transformations before making use of them in the cause of her own expansion.
>
> China's writing, for thousands of years the backbone of her civilization and the ferment which gave it life, must be considered in contrast with the Roman alphabet. The latter strives today to spread gradually over the whole world, yet, as a universal vehicle, it remains split up into a considerable number of languages. The Chinese script on the contrary is interlinguistic. Close on a thousand million people will soon be able to communicate by its means, for Japan still retains access to it.*

The tremendous absorbing power of Chinese culture, which for Westerners has become proverbial, is focused in its manner of writing. Writing which pictured ideas rather than sounds united people who could not talk to one another. Moreover, it set the tone for a culture capable of absorbing foreign ideas and styles of life. Nowhere save in China have Jews been absorbed almost without a trace. The very success, at one level, of the pictographic script prevented the development of a phonetic alphabet and the absence of such an alphabet placed an enormous obstacle in the way

* *China Looks at the World,* pp. 67–72.

in this whole process. Once the printing press has arrived, however, a new phase in General cultural evolution has opened, and Europe begins to lead the world into what we now call modernity. Are modern science, technology, and education conceivable without print? Surely not. Is a modern economy possible without print? Can one conceive of the growth of European nation-states around a common language and literature under the promulgation of law over a considerable space without print? Could mass democracy as an idea be taken seriously without print? Would the industrial revolution have been possible without print? Could man possibly have developed a functionally specific society without print? To all these questions and many more like them I think we must answer, "Of course not!"

When Sir Henry Maine describes modernity as the transition from status to contract, one may fairly ask, "What lies at the core of this change?" Daniel Lerner in *The Passing of Traditional Society* * describes the premises of his account of modernization in the Middle East:

> It is a major hypothesis of this study that high empathic capacity is the predominant personal style only in modern society, which is distinctly industrial, urban, literate and *participant*. Traditional society is nonparticipant—it deploys people by kinship into communities isolated from each other and from a center; without an urban-rural division of labor, it develops few needs requiring economic interdependence; lacking the bonds of interdependence, people's horizons are limited by locale and their decisions involve only other *known* people in *known* situations. Hence, there is no need for a transpersonal common doctrine formulated in terms of shared secondary symbols—a national "ideology" which enables persons unknown to each other to engage in political controversy or achieve "consensus" by comparing their opinions. Modern society is participant in that it functions by "consensus"—individuals making personal decisions on public issues must concur often enough with other individuals they do not know to make possible a stable governance. Among the marks of this historic achievement in social organization which we call Participant Society, are that most people go through school, read newspapers, receive cash payments in jobs they are legally free to change, buy goods for cash in an open market, vote in elections which actually decide among competing candidates, and express opinions on many matters which are not their personal business.**

Lerner suggests that these characteristics of modernity follow from a capacity for empathy—the possibility of an individual imagining himself in another's place. The question which our evolutionary paradigm leads us to ask is, "How did this capacity for empathy come about?" Lerner

* New York: The Free Press of Glencoe, 1958.

** *The Passing of Traditional Society*, pp. 50–51. (Italics in original.)

and the linguists Edward Sapir and Benjamin Lee Whorf, namely, that the structure of reality is presented to individuals through the medium of language. My remarks on perception at the very beginning of this book derive from Wittgenstein's notion that a form of language is a form of life, that is, that when a man acquires a language he acquires also a way of observing, of organizing his experience, a means of distributing emphasis with respect to the real world. It is in this context that the whole paradigm conception of science advanced by Toulmin, Hanson, and Kuhn makes sense, and they would all, I am confident, acknowledge their debt to Wittgenstein. There are, I think, differences in emphasis in this general line of thought. The linguists Whorf and Sapir are somewhat more likely to suggest that the structure of language *determines* the structure of perception than is Wittgenstein who suggests rather more of a reciprocal relationship between the two. Language can be seen as simultaneously reflecting as well as determining the structure of perception and the relationship is thus more complex. It is the "reflecting" side of the relationship that has given rise to the so-called ordinary language school of modern philosophy.

Where Sapir and Whorf attend to the grammar of language and Wittgenstein to the logic of language, McLuhan, true to his literary and artistic background, emphasizes the mode and form in which it is presented. As James W. Carey sees it McLuhan expands the notion of grammar toward, I would suggest, the form of presentation:

> McLuhan does not view the grammar of a medium in terms of the formal properties of language, the parts of speech or morphemes, normally utilized in such an analysis. Instead, he argues that the grammar of a medium derives from the particular mixture of the senses that an individual characteristically uses in the utilization of the medium. For example, language—or better, speech—is the first of the mass media. It is a device for externalizing thought and for fixing and sharing perceptions. As a means of communication, speech elicits a particular orchestration of the sense. While speech is an oral phenomenon and gives rise to "ear-oriented cultures" (cultures in which people more easily believe what they hear than what they see), oral communication synthesizes or brings into play other sensual faculties. For example, in conversation men are aware not only of the sound of the words but also of the visual properties of the speaker and the setting of the tactile qualities of various elements of the setting, and even certain olfactory properties of the person and the situation. These various faculties constitute parallel and simultaneous modes of communication, and thus McLuhan concludes that oral cultures synthesize these various modalities, elicit them all or bring them all into play in a situation utilizing all the sensory apparatus of the person. Oral cultures, then, involve the simultaneous interplay of sight, sound, touch, and smell and thus produce, in McLuhan's view, a depth of involvement in life as the principal communications medium—oral speech—simultaneously

of the existence of personal consciousness, which is but a different perspective on the situation which called Ayer's analysis into being.

Now it is perfectly clear that all moral reflection in the West since 1500 has not been Logical Positivist or existentialist. What I would suggest, however, is that all moral reflection in the West since the development of modern science has sought to deal with the problem stated by Logical Positivism in insoluble form. The problem for moral thought has, thus, been one of accommodation, repair, or, as John Dewey once put it, reconstruction. I think that I can state with only the most minor of qualifications that no modern moral thinker whether he be philosopher, novelist, poet, dramatist, or theologian has been able to ignore the problem created by the breakdown of the classical *Weltanschauung*. Approaches to this problem have varied all the way from reveling in subjective emotion on the one side to the complete objectification of human consciousness on the other. The approaches are so various that I cannot catalogue them all. I would like, however, to describe some of the most important. Starting in each case from the situation of detachment described earlier, I shall try in the succeeding paragraphs to state the crucial steps in several representative and important attempts at solution.

(1) If it is true that human consciousness and choice are detached from the natural order of things, it should be possible for man after understanding the relevant features of the natural situation to create by his own choice an effective moral order. The natural fact is that men are selfish, security-oriented animals living in constant fear of death. Thus, they must create *de novo* an order which so limits each man's aggressiveness that all are secure. The proper political and moral order is, thus, not to be found in nature but literally to be created and invented by man himself. This is the view of Hobbes and in large measure the view of the framers of the American Constitution.

(2) The human consciousness is detached from the natural order to be sure, but its incarceration by rules, even those created by men (as recommended by Hobbes), will frustrate its creativity. The invention of rules is an attempt to impose order where it does not belong. Value is to be found *in* the subjectivity, not in shackling it. If art and morality are emotion, then let them be emotion and not rule-construction. This, of course, is the Romantic view which perhaps ultimately found its flowering in the notion of the folk-soul.

(3) The principal receptacle of the classical view of man was and is the Roman Catholic Church. For Catholic thinkers the solution lay either in denying the situation of detachment by contending that natural science was not what it seemed to be, arguing that the order of nature contained two separate realms (the human and the physical) operating according

to different principles or, most usually, in some combination of both contentions.

(4) The remaining possibility is to deny that human consciousness is what it seems to be. Human consciousness is not really detached from natural processes, it is only a particularly complex form of natural process. This objectification of consciousness characterizes nineteenth-century social science positivists like Comte and Pareto, psychologists like Watson and in some measure Freud himself, and is implicit in a good deal of contemporary social science. Of course, the most significant representative of this view is Karl Marx who suggested that consciousness was but a reflection of the interaction at a particular time of man as physical object with other physical objects. Thus, moral systems were "residues" for Pareto, rationalizations or Oedipal products for psychologists, and superstructure for Marx.

Our culture can reasonably be characterized by the all-pervasiveness of modern science and modern scientific standards. This is what makes our modern problem a problem of scientific culture in the broadest sense and not simply one of technological change. Our very common sense is informed and molded not only by what science has substantively taught us about the world we live in, but also by the criteria which determine what will count as understanding a phenomenon or process. Every field of intellectual endeavor in the modern West has to come to grips with scientific standards, sometimes dressed in the resplendent uniform of Scientific Method and sometimes under the guise of common sense. For this reason speaking of intellectual activity in terms of separate and wholly self-contained realms, that is, as if there were moral criteria, esthetic criteria, as well as scientific criteria, is often not very helpful. It is easy to assume that the moralist has criteria which are entirely unrelated to science. Unfortunately, however, it is not so. The serious commentator on ethics in the modern world must, as our four prototypes above illustrate, either operate in terms of scientific standards or go to great lengths to explain them away. His argument would be hollow and irrelevant to the modern situation if he pretended that science and standards of scientific explanation did not exist.

The problem for contemporary moral thought is nicely stated by Leo Strauss in terms of the question of justifying natural rights:

> The issue of natural right presents itself today as a matter of party allegiance. Looking around us, we see two hostile camps, heavily fortified and strictly guarded. One is occupied by the liberals of various descriptions, the other by the Catholic and non-Catholic disciples of Thomas Aquinas. But both armies and, in addition, those who prefer to sit on the fences or hide their heads in the sand are, to heap metaphor on metaphor, in the same boat. They are all modern men. We are all in the grip of the same difficulty.

strive to make sense of political problems in terms of a particular focus. This pattern is observable at a variety of levels. The focus may be rule creation as with Hobbes or relationship to physical objects as with Marx; or successive and competing foci can be detected at less grand a level. I am particularly intrigued by the analysis of the concept of representation lately presented by Hanna Pitkin.* Mrs. Pitkin describes in detail the development of the concept beginning with Hobbes. In so doing she presents a precise picture of the sort of "overlapping circle" progression of concepts that I am attempting to describe. The "authorization" conception of representation overlaps with the "accountability" conception—they are part of a developing family of meanings. Equally intriguing in terms of our discussion is Mrs. Pitkin's Appendix on Etymology. The Greeks it seems had no word for representation in the modern sense. While the term is of Latin origin, "its original meaning had nothing to do with agency of government or any of the institutions of Roman life which we might consider instances of representation." ** In the Middle Ages the term was used to describe the fact that the church leaders are the embodiment of Christ and the Apostles, but not, significantly, their representatives in the modern sense. The "stand for" sense of representation did not emerge until roughly the fifteenth century. One cannot read Mrs. Pitkin's account without being struck by the fact that the meaning of this significant word took on the logic of visual detachment—something which it had never had before—in the fifteenth and sixteenth centuries. And Hobbes is significant for Mrs. Pitkin's analysis because he, in the 1640s and 1650s, was the first to make anything of the notion that the government "stood for" or "represented" the people.

What we are talking about here are focal ideas, what in the context of the history of science Thomas Kuhn has called paradigms. Sheldon Wolin sees the parallel:

> When applied to the history of political theory, Kuhn's notion of a paradigm, "universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners," invites us to consider Plato, Aristotle, Machiavelli, Hobbes, Locke, and Marx as the counterparts in political theory to Galileo, Harvey, Newton, Laplace, Faraday, and Einstein. Each of the writers in the first group inspired a new way of looking at the political world; in each case their theories proposed a new definition of what was significant for understanding that world; each specified distinctive methods for inquiry; and each of the theories contained an explicit or implicit statement of what should count as an answer to certain basic questions. Kuhn's criterion, that a paradigm should provide "model problems and solutions," is approximated in the way that one theorist will

* Hanna Fenichel Pitkin, *The Concept of Representation* (Berkeley and Los Angeles: University of California, 1967).

** *The Concept of Representation,* p. 241.

10
Evolution Become Conscious of Itself

1

In the preceding chapters we have struggled with the task of establishing a new perspective on politics. We have been bold where we might have been cautious. Some may indeed suggest that we have been reckless, sweeping an extraordinary diversity of factors into what may seem a simple mold. In an important sense, however, I would argue that we have done nothing very unusual. I have only sought to state explicitly what is in fact all around us. Sir Julian Huxley, in a phrase which appealed to Teilhard de Chardin, has described the contemporary intellectual condition of man as evolution become conscious of itself. If one argues as Huxley and Teilhard do that human consciousness is a product of the evolutionary process, implicit in it from the very beginning, then man since Lyell and Darwin has begun to become evolution conscious of itself.

The process is by no means complete. All men have not yet realized the character of their connection with nature and with the past, but the

standard for philosophy and for political philosophy in particular becomes possible. What arises from this perspective is a new understanding of recommendation and justification, a new logic of recommendation, which can only make full sense in the twentieth century.

In a curious and in some measure incomplete way the first thinker to grasp the implications of this contemporary perspective was Nietzsche. This is not the place for a full dress discussion of Nietzsche's ideas, but I do need to briefly describe the core of his teaching so that we can get into focus what might be described as his logical discovery. Animals, Nietzsche argues, forget each moment as soon as it passes. Living, thus, completely in the present means to live unhistorically. Man on the contrary is the animal that cannot help remembering the past, and he therefore lives historically. He does not, however, remember everything. To do so would in fact condemn him to perpetual agony. Only by selectively remembering, being able to forget, can man be happy. Nietzsche, anticipating some of the things that we have said here about the connection between biological and cultural evolution, suggests that this capacity to remember, to turn the experiences of the past into tools for the present, is what separates man from other animals. The dividing line between what an animal, including man, knows, that is, what he remembers, and what he does not know, Nietzsche calls his horizon. Men must have horizons but different men have different horizons—horizons vary over time and with experience. No horizon is or can be completely true; thus, all horizons are false or, in sum, everything is false. These are the conclusions that Nietzsche arrives at by applying critical scientific standards to the human animal developing through time.

All men have lived in accordance with horizons, but all horizons are false—they do not and cannot describe reality as it is. Now the uniquely contemporary twist: This recognition points not to despair but to man's creativity and his power. Man can now, and only now, be seen as the animal capable of creating horizons. For the first time in history he can consciously create his own horizon. Might it be, Nietzsche suggests, that the horizon creator, conscious of himself as horizon creator, will create the most glorious, most genuinely human horizon of all?

I do not wish to argue the merits or demerits of Nietzsche's particular way of stating the point in these pages. I ask you only to attend to the logic of his way of arriving at normative conclusions. His assertion, aphoristic and perhaps excessively dramatic as it is, that the search for truth about reality can never end, that, therefore, any and all horizons with respect to reality are false, leads to and justifies a directive. The directive tells not what is the case but what to do, and in this respect is normative in the full sense of the word. The guide for conduct consists in the recognition that all previous guides, because they rest upon a false conception of reality, are false.

The key to this curious argument is that Nietzsche saw clearly a tension between truth and life. The normative, the fact that man must *do* something and he must decide *what* to do, is a matter of life, of the biological fact of existence. Truth in the sense of the accurate description of reality can never be obtained—all attempts are false—but life is the paramount matter; it proceeds, truth or no truth. When Albert Camus says half a century later that suicide is the only important philosophical question—one must first decide whether life should be lived or not—he is following Nietzsche. Nietzsche strikes at previous philosophizing which argued in the form "*x* should be done *because* such-and-such *is* the case." Such assertions are always false, but the recognition of this falsity opens the door to the free creation of the norms of life. Life and truth are not identical. Truth is not prior to life. Life is prior to truth.

Nietzsche is supremely conscious of the fact that his philosophical problems are problems of his time and culture—problems unique to nineteenth-century Europe. His famous suggestion that God is dead means that he is dead for nineteenth-century Europeans even though he once lived for Europeans of an earlier time. Nietzsche writes *after* the discovery of the importance of history, *after* the promulgation of man's animal roots in the theory of evolution, and *after* the Western mind had devised the distinction between "is" and "ought." My argument here is that his position would have made no sense—or better, perhaps, would have been impossible—apart from this unique perspective.

We have, I think, said enough to make the first two aspects of his perspective clear. I should, however, say a word or two more about the significance of the separation of "is" and "ought." It is a fact that the is-ought distinction is made the object of heavy emphasis nowhere save in the modern West. This fact, it seems to me, is to be understood in terms of the detached observer position which characterizes the modern West. The modern observer assessing the world visually through the medium of the printed proposition (*a la* Wittgenstein in the *Tractatus*) sees a radical is-ought separation because of his perspective. *Looking* at the world through the lens of the printed proposition makes one *see* that while the "is" is plainly "out there," the "ought" is nowhere to be found (save perhaps in the mind of the observer). Primitive, classical, medieval, or for that matter oriental man because of his sensory engulfment in nature —while he knows, in some sense, that there is a difference between "is" and "ought"—does not feel the radical separation. The message of classical moral philosophy is plainly that by knowing what man *is,* his essence, his nature, one can know what he *ought* to do, what is right or wrong for him. Nietzsche, in the spirit of Hume and the Logical Positivists, sees that knowledge of the essence of things, including man, is illusory—all horizons are false—but his brilliance, largely unnoticed, consists in his positive conclusion from this uniquely modern insight. Saying, with the

Harvard philosopher Stanley Cavell, after having commented upon the differences and indeed the considerable animosities between the two views, suggests: "Yet both are modern philosophies; both are, by intention and in feeling, revolutionary departures from traditional philosophy. That is, perhaps, a characteristic of philosophy generally: every departure believes itself to be escaping from an empty, hateful past, and to be setting the mind at last on the right road. Yet it is striking that the terms 'analytical' and 'existential' were initially coined to purify philosophy of the identical fool's gold in its tradition—the tendency to issue in speculative systems [particularly that of Hegel]. The discovery of analytical philosophy is that such systems make statements which are meaningless or useless; the discovery of existentialism is that such systems make life meaningless." *

4

What does it mean to be an existentialist, or to think "existentially"? It is possible, of course, to become involved in a very elaborate discussion in pursuit of an answer to this question. If, however, we focus on the central stream of existentialist thinking, it is not unreasonable to argue that one who accepts Sartre's famous maxim "existence precedes essence" and makes it the basis of his position thinks existentially. Heidegger has rejected this particular statement, but nonetheless if one is careful about explaining it, the general sense of existentialism can be indicated.

In an important respect the maxim is the contradiction of a line of thought implicit in philosophy from Aristotle to Hegel. For both can reasonably be understood as assenting to a statement that "essence precedes existence." The essence of man was conceived as a sort of category or slot in the nature of the universe into which each man fits more or less well. Thus, the philosopher's task is to discover the nature of man so that each man can use it as a guide. This is "is-to-ought" reasoning in its classic form. But existentialism from its contemporary perspective rejects this elemental notion.

"Existence precedes essence" might have been announced as proper doctrine at various stages in the long history of philosophy. A medieval nominalist, for example, might have said it. He would have understood it to mean that particular objects, for example, animals, are prior to the universal concept "animal," which is in fact simply their common name.

* Stanley Cavell, "Existentialism and Analytical Philosophy," *Daedalus,* Summer, 1964, p. 948. Reprinted by permission of *Daedalus,* Journal of the American Academy of Arts and Sciences, Boston, Mass., Summer, 1964, "Existentialism and Analytical Philosophy."

Similarly, a modern empiricist, even an analytic philosopher, might say it and mean by it that perceived facts are prior to the general laws that explain them. "When the existentialist says it, however, he means something more and different. He is thinking of *man's* essence and existence. And he is saying that when a person tries to concentrate on the universal essence of man instead of on the living and poignant existence directly exemplified in himself, he is turning away from human reality instead of growing toward a sound understanding of it. By this route one will inevitably find man's essence in his faculty of reason, and will employ merely rational thinking in the endeavor to understand it." *

Thus, the existentialist thinker like Nietzsche (who in this respect can be considered an existentialist) sees clearly the tension between truth, the product of reason, and life, which can properly be understood as the product of evolution.

> A man . . . is a full person, not just a cognitive mind, and it requires all the resources of a full person to understand him. To win these resources one must face the fact of one's own existence, with its emotional involvements and its fateful possibilities of weal and woe. Everyone has been thrown into the turbulent current of life, and whether he is aware of it or not this predicament is the determinative factor in all that he does—including his apparently rational thinking. Until we recognize, in this setting, that existence precedes essence, one cannot hope to understand man or the deeper realities of human experience.**

The brooding Norseman, Søren Kierkegaard, who is correctly regarded as the founder of existentialist thinking, began as a Hegelian but rejected Hegel's rational, universal system in favor of the reality of individual life. Kierkegaard retained Hegel's sense of time, of dialectical growth, but saw it in the context of individual development through creative choice. He saw the human condition from, so to speak, the "inside" as a matter of free, animal adaptation—not, however, as instinctive response to environment, but in the uniquely human context of conscious choice in the face of environment and animal instinct. In this way he and the existentialists who follow him were profoundly biological. Kierkegaard discovered from the inside what Darwin and Freud discovered from the outside.

One more point about Kierkegaard and the existentialists is extremely important for our discussion. Once Kierkegaard had grasped the tension between life and truth, between living and reasoning, he saw that reasoning in the ordinary sense of deducing and inducing was inadequate to the

* E. A. Burtt, *In Search of Philosophic Understanding* (New York: The New American Library, 1965), pp. 77–78.
** *In Search of Philosophic Understanding,* p. 78.

Wittgenstein in his early life came to philosophy from logic and the foundations of mathematics and, in so doing, clearly stated the implications of the visually isolated style of thinking which had developed in the West since 1500. He focused his entire argument, as I indicated earlier, around the written proposition and the way "like a scale applied to reality" it pictured the world of facts. The power of his argument stimulated the Logical Positivists and aroused their fierce attack upon the humanist philosophical tradition, but, as he later realized, the clarity of his argument also brought this style of thinking to its dead end. The great misfortune is that in the last several decades social scientists have attached themselves to this dead end and have proclaimed it far and wide, supposing it to be the revolutionary ultimate discovery of truth.

Throughout his life Wittgenstein approached philosophy through language. While his view changes radically in his later writings, the focus on language is a constant. After having pushed the relationship between the written language and the world to its logical end, he saw its inadequacy as a representation of genuine human circumstances. A new world opens when he directs himself to the oral, living language. Compare this pivotal and typical passage from the *Philosophical Investigations* with the sections of the *Tractatus* quoted earlier:

> But how many kinds of sentence are there? Say assertion, question, and command?—There are *countless* kinds: countless different kinds of use of what we call "symbols," "words," "sentences." And this multiplicity is not something fixed, given once for all; but new types of language, new language-games, as we may say, come into existence, and others become obsolete and get forgotten. (We can get a *rough picture* of this from the changes in mathematics.)
>
> Here the term "language-game" is meant to bring into prominence the fact that the *speaking* of language is part of an activity, or of a form of life.
>
> Review the multiplicity of language-games in the following examples, and in others:
>
> Giving orders, and obeying them—
> Describing the appearance of an object or giving its measurements—
> Constructing an object from a description (a drawing)—
> Reporting an event—
> Speculating about an event—
> Forming and testing a hypothesis—
> Presenting the results of an experiment in tables and diagrams—
> Making up a story; and reading it—
> Play-acting—
> Singing catches—
> Guessing riddles—
> Making a joke; telling it—
> Solving a problem in practical arithmetic—

of "All men are *X*" statement including "All men are fallible" is irrelevant and inauthentic to the personal commitment itself. Another way of making the point is to say that there is nothing at all abstract about being committed to democracy. Being committed to democracy means letting the guy talk even when you hate the son-of-a-bitch and think he is 400 percent wrong, but it also means refusing to allow him to destroy that highest political achievement of cultural evolution, the rules of the democratic order. Expressing this kind of commitment as a matter of logic was the task of *The Logic of Democracy*.

8

In reviewing these two lines of political argument—the one existentialist and individually oriented, the other based on the analysis of the logic of language and system oriented—I have been attempting to show that both are conscious, even if only implicitly, of the evolutionary perspective. Both reflect the logic of life against the background of contemporary Western culture. Neither, however, pushes through to the truly contemporary synthesis—for neither reflects evolution become conscious of itself. It is just this perspective that the book you are now reading has attempted to state. By *biopolitics*—the politics of life—I mean politics understood by man as evolution becomes conscious of itself.

The contemporary problem for political understanding is one of getting itself clear about the character of the contemporary world. I choose the term "political understanding" carefully because if the present analysis shows anything, it shows that the radical distinction between political science and political philosophy, like the broader distinction between "is" and "ought," is a product of the print culture of the last four hundred years. When one faces the question of politics in an evolutionary way, the distinction, at least as a matter of philosophy if not as a matter of the practice of the individual investigator, simply evaporates.

Karl Marx in his limited nineteenth-century way understood this point. His political science and his political philosophy were one and the same, and he made no attempt to conceal this fact. One of the aspects of the contemporary world that political understanding must get itself clear about is the significance of Marxism. While some of us suspect—rightly, I think—that Marxism is on the wane, none can deny its extraordinary and in some ways unprecedented success. Yet we are confused about the reasons for its success. We know that it spread by force and violence, but force and violence are nothing new. The question remains: Why should force and violence be so successful tied to this particular doctrine? The answer, I think, is really quite simple, but one must have the proper perspective to see it. The leap of the West to a new cultural level after 1500

has rapidly accelerated the fact of social change, first in the West itself and then in all those areas touched by the West. The fact of change through time—the "four-dimensionality" of human existence which was always present but was previously invisible—suddenly and increasingly became a primary fact of life. And Marxism, almost alone among accounts of social and political life, is a theory of society and politics in four dimensions. Social life is four-dimensional and so is Marxism and this is its power.

Again the history of science can instruct us. We began this long discussion by contrasting the Newtonian universal-generalization paradigm of understanding with the Darwinian evolutionary-developmental paradigm of understanding. A similar contrast—indeed perhaps the same contrast—lies at the core of the current political division of the world. By the eighteenth century the Western world had begun to move quickly enough so that the sensitive could recognize it. By the nineteenth century, particularly on the Continent of Europe itself, in France and in Germany, the sense of movement jarred the passengers with a violence that only a fool could have missed.

The Englishmen of the seventeenth and eighteenth centuries, together with certain of their Continental friends, notably Montesquieu, saw the fact of flux in human affairs. In the style of their intellectual guide, Sir Isaac Newton, they sought to build a structure based on universal laws that would be strong enough to weather whatever storm arose. This stance is typically expressed in two metaphors, one architectural and the other contractual.* In the first case the architect of the state takes the detached observer position outside political life itself. It is his duty not only to understand men as they are, but to shape them into a new political edifice that will stand the test of time. In the second case the idea of social contract expresses the notion of creating man-made but durable products called civil society and government. Harrington, for example, describes "props and scaffolds" for the building of a "Constitution which stands by it selfe" from thence forward. In the rhetoric of Madison, Hamilton, and Adams the constitution was an "edifice," "erected" upon "foundations," with "pillors," "interior," and "superstructure."

The image of the hydroelectric dam built upon a swiftly flowly river which we used earlier to describe the theory of the political system is also an apt way to describe the constitutional structure of Harrington and Madison. It is therefore not surprising that Easton's theory should have descriptive value for the American polity. After all, Madison and the others shared with Easton the Newtonian paradigm and the edifice which they built was informed by it.

* I am indebted to Professor Kirk Thompson of Reed College for his discussion of these matters in his paper "Constitutional Theory and Political Action" delivered at the 1967 meeting of the American Political Science Association.

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