I BEGAN Chapter 9 with the definition "Science seeks to discover and formulate in general terms the conditions under which events occur," and I was being deliberately provocative when I included in the branches of science political science, sociology, and anthropology. It is important to realize that despite differences of method, interest, technique, subject matter, and degree, all scientific knowledge must be confirmed or verified; all must be justified by evidence or good reasons. The criteria for a good hypothesis (that it be falsifiable, simple, beautiful, general, etc.) apply equally. So do the ideals of science (reliability, precision, objectivity, testability, comprehensiveness, etc.), and the requirement that the justification for a claim be unremittingly criticized. Not every scientific explanation satisfies all of these goals equally well, but the goals are the same for all of our organized empirical knowledge.

However, not all philosophers agree with this ideal of unified science. They argue that the actions of human beings comprise a unique and ultimate category of events, and that therefore such fields as social psychology, sociology, anthropology, economics, and political science cannot be studied by the methods of the natural sciences (by which they usually mean physics). This is an issue fraught with emotion, and usually fought by polemic. In part they fear the possible results of the scientific knowledge of human behavior; in part they oppose what they regard as scientific imperialism; in part they are sensitive to Poincaré's jeer, "Physicists have a subject matter, but sociologists study only methods." Still, they make a substantial point, which must be considered on its merits, and that is, that there is a radical difference between the scientific understanding of why a leaf flies in the wind and why a man flies from a mob; if the scientist did not himself know fear and hate, he would miss the point of the latter event entirely. Human actions, it is argued, are charged with meanings. The behaviorist observer, who is limited to what he
can see, and who ignores the "inwardness" of human actions, "denudes the world of meaning"; he sees the same overt action in the kiss of a lover, the kiss of a prostitute, and the kiss of Judas. What would he report, it is asked, about what was going on, if he were a visitor from Mars who landed in New York at 11:00 A.M. on Armistice Day, and saw everyone standing around silently?

The term *Verstehen* ("to understand") denotes the position of those who claim that the social scientist can and must make use of his own inner experience. The student of human actions is part of his own subject matter. He must use the methods of introspection and empathy, which have nothing in common with the procedures of natural science. Thus, Isaiah Berlin claims that "a man who lacks common intelligence can be a physicist of genius, but not even a mediocre historian." Dilthey and Windelband distinguish the "nomothetic" natural sciences (which generalize) from the "idiographic" social sciences (which try to articulate individuality). This position must be seriously examined.

(Some philosophers argue that no generalization about human behavior is ever valid, since individuals have free will. This position, I believe, is quite untenable. Reliable predictions are made regularly about the number of automobile accidents that will happen over the weekend, and the number of parcels that will be lost at Grand Central, and the shift in political preference that accompanies a move by a family from the center of a city to the suburbs.)

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It will be useful to consider in detail *twelve specific claims about the social sciences that might be interpreted as justifying the Verstehen position*:

1. *In the natural sciences, a hypothesis is verified by experiment, but the social sciences cannot experiment.* The ability to experiment is essential to the testing of explanations in the natural sciences. However, physics need not be taken as the model for the natural sciences, and neither astronomy nor geology can experiment. Moreover, if the meaning of "experiment" is somewhat broadened to include an investigation for which there are controls, then the social sciences do experiment. Thus, a study in Canada of male hospital attendants found that those who had been shown a movie of a violent knife fight were more aggressively punitive toward their patients than a control group of attendants who were shown a "peaceful" movie. Other inquiries in the social sci-
ences have investigated whether voters are influenced by a candidate's religion; and whether having a television set at home has any effect on how often the children go to church on Sunday.

2. The natural sciences can repeat experiments in order to verify their hypotheses, and can generalize their results. Anyone cubic centimeter of pure water is exactly like any other; if you find out its weight, then you can predict the weight of every cubic centimeter of water. The social sciences, however, it is claimed, deal with situations that are not uniform: no two persons and no two social contexts are exactly alike. The events of the past have a specific time and place index; there is a uniqueness (or Einmaligkeit) to the French Revolution, for example, or to the rise of fascism, which makes it impossible to include it in any generalization. However, this claim for the Verstehen position cannot be upheld. It is only by an idealization that two actual cubic centimeters of water may be taken to be alike: they are never exactly alike, but the differences between them (in impurities, for example, or temperature) may be irrelevant to a particular inquiry, just as the differences between two voters or two villages may be ignored in certain investigations. Certain of the natural sciences (such as geology) deal with unique past events; and every physical event is (under certain interpretations) uniquely dated by entropy. The uniqueness of past historical events does not prevent the discernment of patterns (for example, in all revolutions) or the pragmatic grouping of individual events into classes in order to point out functional interrelations (such as between war and inflation, or between frustration and aggression). Causal laws connect kinds of events by abstracting from those singularities which are held to be irrelevant to that inquiry (e.g., whether the hospital attendants in the previously cited study were blue-eyed or brown-eyed).

4. The natural scientist, it is claimed, can isolate what his hypothesis applies to, so that his predictions are not upset by outside variables. He may close off the solar system as if it were an aquarium, so to speak; celestial mechanics requires only mass, location, and velocity for a full description of phenomena. Social phenomena, on the other hand, are endlessly ramified; there is no way to cut them off clearly. Can anyone cope with the complexity of the factors relevant to
an election? or to the fluctuations of the stock market? When it was suggested to James that psychology is the study of the knee jerk and related phenomena, he replied that all phenomena are related phenomena. How many variables are relevant to intelligence, for example-health? heredity? money? eye color? brain size? climate? And in social situations, there may be consequences that are unintended: if I decide to sell my shares of stock, the price will drop. *But the reply to this claim is to point out that the tacit understanding, other things being equal, applies in all investigations, physical as well as social.* Galileo's laws of falling bodies seem to be the essence of simplicity, but that is because they disregard the friction and resistance of the air—if they did not do so, they would have to take into account the shape and material of the falling body and be endlessly complex. Kepler's law that a planet travels in a simple elliptical orbit abstracts from the complicated gravitational attraction exerted on each planet by every other body in the solar system. In fact I cannot move my finger without disturbing all the stars. In both the natural and social sciences, we always assume that we may disregard certain elements as irrelevant or trivial. Some areas of physics, such as cloud formation and hydrodynamic turbulence, seem to be as complex as any phenomena the social sciences study.

4. The astronomer may confidently predict the next solar eclipse, so that his hypotheses may be unequivocally verified; whereas, it is claimed by the Vetstehem position, no social scientist can predict with any assurance. This charge is true, but it is a matter of degree. No physicist would dare to predict where a flying leaf will be ten minutes hence. No sociologist would hesitate to predict that no woman will be elected Pope in 2010.

5. *The hypotheses of the natural scientist, it is claimed, can be stated with precision and universality because he operates with certain constants that hold true throughout the universe.* Among these are the speed of light (c), Planck's constant of energy levels (h), the electric charge of the electron (e), the mass of the electron (m), and the gravitational constant (G). *The social scientist has nothing to compare with these unchanging aspects of the physical world. However, it would be an exaggeration to claim that there are no constants in human actions;* for instance, human mortality, per-
haps sexual desire, and the law of diminishing returns.

6. The physical scientist, it is claimed, can verify his hypotheses by observation; he can see the eclipse and the falling apple; but the social scientist can see only the smallest part of "social reality." He relies on introspection and empathy to uncover the motives of human behavior, which are unobservable and inaccessible. If the anthropologist observes a primitive society, he has no way of finding out that it is their belief in witchcraft which motivates their behavior. He may be as mystified by their ritual as they would be if they saw him drop a letter into a mailbox after licking a stamp. If the social scientist is limited to what he can observe, what will he report when, for example, he sees that you don't vote (is it because of laziness? or disgust? or rebelliousness? or a bribe?) or when you stand still on Armistice Day? When the physicist postulates unobservable entities, such as electrons, to explain phenomena, he introduces precise rules that coordinate those unobservable electrons with something that can be observed, namely, tracks in a Wilson cloud chamber; but he need not empathize with his electrons. The social scientist does not know what motive to coordinate with your not voting; he must refer to his own motives in order to formulate the conditions under which such events occur.

Now, this may well be the source of explanatory hypotheses in the social sciences; introspection and empathy may be useful, perhaps even necessary; but what counts in science is not where the hypothesis comes from, but whether and how it is verified. The historian Guglielmo Ferrero writes:

I am not one of those historians who must submerge themselves in masses of documents to form an opinion. As soon as I know the facts, I enter into the psychology of the men who were important to the events .... I read their works; I study their actions; then, interpreting from experience, I try to form an opinion, and finally I work out an hypothesis which I verify by research.

But empathy may actually mislead you. When you bomb your enemy in wartime, do you predict his submission because you empathize with the terror, or do you predict his resistance because you empathize with the challenge? Can you by Verstehen empathize with Lee Harvey Oswald? or with Hitler? or with believers in witchcraft? "Intuition prevents some people from imagining that anyone could possibly dislike chocolate," says Karl Popper. The poet, too, uses
empathy; in the "pathetic fallacy" he imputes human feelings to inanimate objects-the "angry" storm, the "brave" early crocus, nature's "lavish ingenuity." Prediction of human actions may but need not speculate on motives or other unobservable factors. If the social scientist correctly predicts voting behavior, that is, if his hypothesis is verified by what happens, then his empathy with presumed laziness or disgust or rebelliousness or whatever, is beside the point.

7. The raw material of the natural sciences can be measured with precision, but concepts in the social sciences (e.g., "army morale," "equality of opportunity," "free enterprise," "national character") are inherently vague and qualitative (or intensive). You can measure a woman's height, but not her patriotism. You can put two people on a scale together to get a heavier weight, but you cannot add their I.Q.'s to get a genius. However, (a) some natural sciences (e.g., meteorology) are quite imprecise; and "it is never possible to predict a physical occurrence with unlimited precision," as Planck said. (b) The social sciences are increasingly relying on mathematics. Consider, for instance, anthropometry, cybernetics, theory of games and economic behavior, sampling and poll-taking, elaborate statistical analysis by computers, "cliometrics," the newest branch of history. In economics, the raw data of experience are already in numerical form. Some surprising facts have emerged from the use of mathematics in the social sciences: there is an isomorphism between the spread of rumors and the spread of disease (just as sounds have the same form as water waves); in sufficiently large aggregations there is a relation between the rank and the frequency of certain elements (Zipf's "law of least effort" - the second letter in order of frequency, t, appears half as often as the first, e; if the cities of a nation are ranked in order of population, then the largest city has twice the population of the next largest). (c) Although intensive qualities cannot be measured, they often can be scaled, or placed within some rank or order. The hardness of minerals, for example, is not measured, but expressed in terms of a scale from I (talc) to IO (diamond); a new mineral might be described as being between 7 (quartz) and 8 (topaz). The pecking order of a group of barnyard fowl is also a scale. By careful analysis, it has been found possible to scale such intensive qualities as patriotism and race prejudice. (d) The "mystique of
quality" is misguided; "the difference between the qualitative and the quantitative is not a difference in nature but a difference in our conceptual system-in our language," says Carnap. When you say that it is hot, and when you say that the temperature is 86°F., you are not denoting different things, but using different sets of symbols. To call a sound high-pitched and to identify its wavelength is to refer to the same "piece of the world" in different ways. Quality and quantity are not antithetical; any quantity is a quantity of a quality.

8. In the natural sciences, phenomena may be studied without regard to their past (an inclined plane is just what it is), whereas human beings and societies are only what they have come to be. This is a problem for the social sciences, which may find their predictions falsified because of unobservable and unverifiable past histories. Not everyone who dips a madeleine in tea will react as did Marcel Proust. Only the burnt child dreads the fire. Living creatures have memories, dispositions, and expectations. Behavior is altered by habits and conditioning. Thus, a person's past history influences his present reactions (Russell's "mnemic phenomena"); rocks do not remember. But this constraint does not preclude the search for generalizations about behavioral phenomena (for example, one might investigate whether all burnt children dread fire equally) and in physics the influence of the past is not always irrelevant (hysteresis is the lagging or retardation effect in viscosity and internal friction). Everything is what it has come to be. If you were to take someone's place in the middle of a chess game, you could determine your best move just by examining the position on the chess board at that time, but you could not similarly replace the bridge player in the middle of a hand without knowing the previous bids and cards played. Thus, the physicist can often make predictions on the basis of general laws and present conditions, whereas the sociologist may require, in addition, a temporal or historical perspective: knowledge of how things got to be the way they are. Sartre misses the point when he remarks that American "hyper-empiricism-which on principle neglects connections with the past-could arise only in a country whose History is relatively short." But that a social situation (or a man, or a bridge game) is what it has come to be does not
prevent scientific inquiry-why should it?-any more than it
does in historical geology. In evolutionary biology, every liv-
ing species is what it is as the result of a long history of
natural selection; but only the history which is incorporated
into its present structure is of any scientific significance.

9. In the social sciences, explanatory hypotheses may become
confused because there is an unavoidable interaction between
the scientist and what he studies, between his statements and
the people to whom he makes them. The astronomer's pre-
diction of an eclipse has no effect on the eclipse; but the
sociologist's predictions, when publicized, may be self-ful-
filling ("there will be a run on the bank"; "prices on the
stock market will go up"; "ghetto children are likely to be-
come delinquents"); remember what happened to Macbeth
when the witches predicted he would become king). The
sociologist's predictions may also be self-defeating ("the com-
modity you manufacture will be overproduced"; "you'll have
an accident if you drive home in this weather"; "Jones is the
underdog in this election and can't possibly win"). This is
the Cassandra paradox: a prediction to you about you may
motivate you to defy the prediction. Moreover, as opinion
researchers will confirm, a question may often be asked in
such a way as to evoke a certain response. The poll-taker may
unconsciously interfere with the situation being investigated;
this criticism was made of the Kinsey report. The announce-
ment of a new disease or syndrome, genuine or imaginary,
will elicit some responses of "That's just what I have!" Thus,
the physician (like other investigators) may induce by his
manner or remarks an otherwise nonexistent pathological
condition ("iatrogenic causation"). Different physicians using
the same drugs on the same patients may get different results.

Interactions between social investigators and what is being
investigated do occur, and they do present a problem for
social science. But this complication is again a matter of de-
gree. In physics, too, the insertion of a thermometer into a
liquid alters its temperature; and in all intra-atomic measure-
ments, the observing device interacts with what is being ob-
erved. However, there is no reason why all these interactions
cannot be examined. The impact of self-fulfilling or self-
defeating prophecies ("seldep") can be evaluated. There is
no insurmountable difficulty in generalizing these behavior
patterns.
Adolph Lowe has argued in On Economic Knowledge that economic theory does not unravel a tangle from outside, but is the means whereby a participant within the process consciously alters it:

That knowledge should be inseparable from action, because that which is known may first have to be created in the image of a rationally conceived design, is probably the one characteristic that ... separates the science of Society from the science of Nature.

But, as I argue throughout this book, neither in physics nor in human affairs is there a determinate, ordered "reality" which can be known by the passive reception of discrete sense impressions.

10. The natural scientist is indifferent to his subject matter, but the student of human affairs can scarcely be detached in investigating birth control, socialism, sexual freedom, crime, drugs, pornography, and so on. The social sciences, unlike the physical, are permeated with values. It was the hope of Auguste Comte that his newly founded "science of society" would eliminate values by distinguishing, for example, the question of whether to land a man on the moon from the question of how to do so; or whether to solve India's population problem by putting a sterilizing chemical into the water supply from how to do so. (These examples, of course, are not from Comte.)

The involvement of the social sciences with ethical or moral issues has various aspects. (a) As in the examples cited, the issues themselves may pose ethical considerations. But, obviously, issues in the natural sciences do so as well. Whether to develop new pesticides, or a new nerve gas; what kinds of experiments to perform on animals, fetuses, and prisoners, all involve moral questions. (b) The judgment of the social scientist may be affected by his interests: think of conservative and liberal analysts of unemployment and inflation, of Mao and Khrushchev on the inevitability of war, of labor and capitalist determinations as to whether wages or profits rose faster. But such bias occurs in the natural sciences as well: think of the Soviet advocacy of Lysenkoism, of Nazi opposition to relativity physics, of Oppenheimer versus Teller on the hydrogen bomb, of arguments about evolution and the age of the earth. Scientists may be biased; but this applies to
the natural sciences and the social sciences equally. Theoretically, bias may be made explicit and compensated for; scientific procedures are self-corrective. (c) Some of the applications of social theories have been suspect: functionalism in anthropology has been denounced as a device for the imperialist management of primitive societies; but physical theories have of course also been used for ulterior purposes. (d) The social scientist may select his problems because he believes the results of his research will be socially valuable (e.g., to raise real wages); but so does the physicist. Both are human beings. (e) It is claimed that fact and value are in principle impossible to separate in the social sciences: can you describe a concentration camp factually without using the word "cruel"? But, as Ernest Nagel has shown, there is a sharp difference between characterizing and appraising, that is, between defining or clarifying a condition, and approving or condemning it. You might say that absinthe is the best way to drink yourself to death. An atheist is no less competent than a devout believer in distinguishing a truly religious person from one who is only going through the motions. A pro- or anti- attitude need not obfuscate a statement of the relation of means to ends. (1) Since no hypothesis is ever completely proven, there is often in the physical as well in the social sciences some problem that requires rational decision; for example, how high should we build a dam to prevent floods? what safety factor should we use for a bridge? when is a certain new drug safe to market? what percentage of toxic side effects may we ignore? when ought a new discovery be published? These decisions involve values; they must be made in both the natural and the social sciences.

11. In the natural sciences, it is claimed that the facts dealt with can be unambiguously isolated; whereas the social sciences face problems in establishing their hypotheses not only because the concepts used are qualitative and vague (which is claim #7), but also because social facts are contextual and holistic. They involve human actions, which are never without a setting. Thus, a "voter in the primary" is more than just a "person moving a lever"; a "banker certifying a check" is more than just a "person pushing a pen"; a piece of green paper is money only if the people handling it believe it to
be so; a man wearing a uniform is an army officer only if he is so regarded. Social data are never "brute facts." They require interpretation by concepts. These concepts, it is claimed, are unavoidably normative and can be properly understood only by the participants themselves "from the inside." No outsider can break into this interlocking set of meanings and values (the "hermeneutic circle"). But this argument for the Verstehen position transforms a practical difficulty into a theoretical impasse, and confuses experience with knowledge.

No special intuition or empathetic understanding is required to predict and describe what people do. If social facts are indeed contextual, and institutions are constituted by systems of rules, or "forms of life," they can be investigated just like any other phenomena, even if they are networks which are more than the individuals involved. An army, or a football team, or a square dance, or a revival meeting, or a philosophy class consists of persons who have mutual interactions and expectations. "One chimpanzee is no chimpanzee," said Yerkes, perceptively.

The thesis of holism takes the beehive as the model for human society: laws stating the properties of wholes or collectives are required in order to explain and predict social events; personality variables are irrelevant; individuals are the actors who just happen to play roles in a social scene. Tolstoy wondered in War and Peace how the army could want war when each soldier wanted peace; but, whether in a lynch mob, or a political convention, or a social club, or a Dutch tulip craze, persons will do in groups what they will not do acting alone. Every culture assumes some notion of order or hierarchy without which no description of social facts is complete. Marxist holism claims that what each of us thinks and how each of us acts are to be explained by how our class is related to the modes of production.

Three considerations, however, may be adduced to modulate the view that social science is distinctively holistic. (a) Natural science must also often take account of context (e.g., the critical level necessary for an atomic reaction; or in magnetism or ecology). (b) The astronomer can study the stars in the Big Dipper as a single constellation; the sociologist can study the behavior of a mob as a unity. Thus, microeconomics studies the observable actions of single individuals; macro-
economics deals with such abstractions as "balance of trade" and "Gross National Product." The "aggregation problem" in economics of inferring the total demand for consumer goods from the number of shirts that Bert buys presents no greater theoretical difficulties than the physicist faces in dealing with temperature as the property of a thermodynamic system rather than of a single molecule. (c) Most important, the thesis of methodological individualism, which is opposed to holism, argues that all social or collective terms can be analyzed exhaustively into the behavior and dispositions of individual persons. Accordingly, Adam Smith and Mill base social theories on individual propensities; Pareto claims that "psychology is at the base of all the social sciences"; and Erich Fromm uses the categories of psychoanalysis to explain politics and economics. John Maynard Keynes built his General Theory of economic activity on three psychological factors: a propensity to consume, an attitude to liquidity, and an expectation of future yield from capital assets. Lewis Namier contributed to historiography by his study of the eighteenth-century British political parties, in which he maintained that party decisions were motivated by the self-interest of individual party members. This sort of reduction of the social sciences to depth psychology, I believe, often teeters on the edge of the reductive fallacy. I doubt that the jury system in England can be accounted for by some Anglo-Saxon psychological trait or that it was the "authoritarian personality" that produced Nazism. I am not persuaded by Geoffrey Corer's contention that the success of Bolshevism may be attributed to the Russian addiction to swaddling clothes. However, there are sufficient grounds to dispute the claim of holism that contextual social facts must be theoretically distinguished from physical facts.

12. Max Weber contends that no objective analysis of "social reality" can be made because "life, with its irrational reality and its store of possible meanings, is inexhaustible." We must select, then, he says, what we consider to be the essential features of an event, and use meaningful categories to construct an "ideal type" which we then impute to the event. "Capitalist" is an example of such an accented construct; no living person actually spends all his time maximizing his profit. However, all the concepts of science (not only those of "social reality") are idealized; all descriptions are selective. The con-
cept of "capitalism" is useful; so are the concepts of "frictionless engine" and "ideal gas," which are likewise arrived at by giving certain variables extreme values.

These twelve diverse and overlapping arguments for the Verstehen view do not impair the naturalist ideal of the unity of science. In different areas of inquiry, there are differences in subject matter, technique, and complexity, but any claim to knowledge must be validated, verified by evidence, and justified by reasons. There is no basis for excluding the investigation of human actions from the maximal organization of knowledge. Empathy is neither necessary nor sufficient for scientific explanation.

Sociology of Knowledge

There are two other interesting problems in the understanding of culture. One is the sociology of knowledge. Let me introduce this discussion by citing certain historical curiosities. At the battle of Adrianople (A.D. 378), the Roman cavalry was defeated by the Goths, who had recently discovered the stirrup and so had the advantage of being able to stand up while on horseback. But people had been riding horses for perhaps a thousand years before that: how is it that no one had previously invented that simple device? And why did the ancient Romans never discover the use of manure for fertilizer? The Japanese and Chinese had long fertilized their fields with manure. Why did the ancient Greeks never adopt the true arch in their buildings, despite its advantages, although older neighboring cultures had used it? Why was Euclid's parallel postulate not seriously questioned for some two thousand years? Why were Mendel's discoveries in genetics overlooked for years?

The sociology of knowledge tries to account for such anomalies by ascribing them to factors extrinsic to the knowledge itself, that is, to social and historical coefficients. On an elementary level, of course, such considerations as bias are obvious: an anthropologist who is a fascist is more likely to "prove" the inferiority of the colored races than one who is nonpolitical; experimenters working for tobacco growers are less likely to find a correlation between cigarette smoking and lung cancer than scientists employed by a consumers' organization. Scientists have their full quota of bias and prejudice, and we should never fail to take this into account. But we can take it into account. The procedures of science are self-corrective. (When the nouveau-riche lady came
down to breakfast wearing diamonds, and was told that "it's vulgar to wear diamonds in the morning," she replied, "That's what I used to think before I had any." The thesis of the sociology of knowledge remains trivial even in more impressive terminology: when Russell tried to explain the philosophy of pragmatism as the offshoot of American industrialism, commercialism, and admiration of power, Dewey countered that it would be just as sensible to explain English neorealist philosophy in terms of a landed aristocracy, or French dualism by the Frenchman's penchant for having both a wife and a mistress.

The sociology of knowledge does become significant, however, when it stresses how often a value judgment is mistaken for a fact. "We hold these truths to be self-evident," declare the Founding Fathers. But is self-evidence always self-evident? Can we be sure we are not being deluded by disguises, distortions, self-deception, self-concealment, unconscious influences? The term ideology was coined in France about 1810 to describe a "science of ideas" which could be used to produce social harmony (this view of the purpose of knowledge filters down through pragmatism). But Hegel used "ideology" to denote the "false consciousness" of persons who, because their thinking was only a partial and transitory stage in the dialectical development of the Absolute, could not know their own true position in history. Marx made the stronger point that all truth is "class truth" and that all ideas are an "ideological" defense of the status quo. Other thinkers who treat ideology as the consciousness of a particular epoch in time are Nietzsche, Weber, and Lukacs. Mannheim argued that the growth of knowledge does not proceed historically according to "immanent laws of development," but rather is so determined by non-theoretical or existential factors that one can always figure out when any statement was uttered. Thinking is done by individuals in specific social and historical settings; thus, the "historically changing nature of mind" enters into the form and substance of all knowledge. Mannheim made this point in *Ideology and Utopia*:

It is impossible to conceive of absolute truth existing independently of the values and positions of the subject and unrelated to the social context. Even a god could not formulate a proposition on historical subjects like $2 + 2 = 4$, for what is intelligible in history can be formulated only with reference to problems and conceptual constructions which themselves arise in the flux of historical experience.
The very principles, in the light of which knowledge is to be criticised, are themselves found to be socially and historically conditioned.

This thesis has had considerable impact; but I believe it to be mistaken, because *it confuses the empirical question of how and why certain beliefs come to be held with the logical question of whether those beliefs are valid*. The sociology of knowledge demands that, in appraising the truth of a proposition, we never disregard its genesis. The answer to this requirement is that there is indeed a relation between one's social-historical situation and the principles one uses to criticize knowledge—but this relation is factual, not logical. The observer may always be made aware of his perspective when he is confronted with other observers. *This is an aspect of the self-corrective nature of the scientific process; it holds equally for natural science and for social history.*

And there is another objection: is not the thesis of the sociology of knowledge itself also an ideology, socially conditioned? What makes it immune? If it poses the problem of irremediable social subjectivism, then (like solipsism) it poses a pseudo-problem. (My own contention in this book, that there is an irreducibly human dimension to knowledge [Chapter 10], is quite another claim: it is man who is the measure, and not anyone form of society-Homo sapiens, and not capitalist America in 1975 or any other culture. We examine later some of the difficulties in determining whether there are any invariants in human nature. Nonetheless, the human is to be distinguished from the extra-human, or the superhuman, or the subhuman [whatever these terms may be taken to denote). But-unless and until we find intelligent creatures elsewhere in the universe-I cannot begin to suggest any operational meaning at all to the term "nonhuman knowledge." That would be like asking me to turn the light on fast enough to see what the dark looks like).

Cultural Relativity of Conceptual Frameworks

A second, related problem is the thesis that no one can ever fully understand an alien culture. The anthropological observer selects data according to an implicit cultural framework. The "facts" never speak for themselves. You might, while traveling in Africa, describe an event you see as follows: "Bert got into his jeep and drove off." However, an African tribesman might describe it very differently: "White man is sucked in by iron mon-
ster and is carried away." Contained in what you take to be a simple neutral account of the facts, are all the ingredients of your tacit point of view: that people act freely; that they act intentionally; that machines are inanimate; that they can be made to move; that science differs from magic. When do these implicit presuppositions of yours ever become explicit? On what common ground can they ever be confronted by those of your African counterpart?

The difficulty in becoming aware of one's culturally bound assumptions may be illustrated by a charming anecdote told by Paul Bowles. He was visiting his friend Brooks in Thailand. A Thai named Yamyong has asked Bowles to explain the significance of the American necktie. Why are the ends not equal? Why is the wide end sometimes longer? Why is the narrow end sometimes longer? Why does the necktie sometimes reach below the waist? Bowles finds it hard to give Yamyong an answer that will satisfy him. Later, as the following story reveals, Bowles is mystified by one of Yamyong's explanations:

Brooks sat beside me on the bus going back to Bangkok. We spoke only now and then. After so many hours of resisting the heat, it was relaxing to sit and feel the relatively cool air that blew in from the rice fields. The driver of the bus was not a believer in cause and effect. He passed trucks with oncoming traffic in full view, I felt better with my eyes shut, and I might even have dozed off, had there not been in the back of the bus a man, obviously not in control, who was intent on making as much noise as possible. He began to shout, scream, and howl almost as soon as we had left Ayudhaya, and he did this consistently throughout the journey. Brooks and I laughed about it, conjecturing whether he were crazy or only drunk. The aisle was too crowded for me to be able to see him from where I sat. Occasionally I glanced at the other passengers. It was as though they were entirely unaware of the commotion behind them. As we drew closer to the city, the screams became louder and almost constant.

"God, why don't they throw him off?" Brooks was beginning to be annoyed.

"They don't even hear him," I said bitterly. People who can tolerate noise inspire me with envy and rage. Finally I leaned over and said to Yamyong: "That poor man back there! It's incredible!"

"Yes," he said over his shoulder. "He's very busy." This set me thinking what a civilized and tolerant people they were, and I marvelled at the sophistication of the word "busy" to describe
what was going on in the back of the bus.

Finally we were in a taxi driving across Bangkok. I would be dropped at my hotel and Brooks would take the three bhikkus on to their wat. In my head I was still hearing the heartrending cries. What had the repeated word patterns meant?

I had not been able to give an acceptable answer to Yamyong in his bewilderment about the significance of the necktie, but perhaps he could satisfy my curiosity here.

"That man in the back of the bus, you know?"

Yamyong nodded. "He was working very hard, poor fellow. Sunday is a bad day."

I disregarded the nonsense. "What was he saying?"

"Oh, he was saying: 'Go into second gear: or 'We are coming to a bridge: or 'Be careful, people in the road.' Whatever he saw."

Since neither Brooks nor I appeared to have understood, he went on. "All the buses must have a driver's assistant. He watches the road and tells the driver how to drive. It is hard work because he must shout loud enough for the driver to hear him."

"But why doesn't he sit up in the front with the driver?"

"No, no. There must be one in the front and one in the back. That way two men are responsible for the bus."

It was an unconvincing explanation ... but to show him that I believed him I said: "Aha! I see."

This anecdote illustrates the difficulty we have in becoming aware of, and making manifest to ourselves, our own pervasive latent conceptual frameworks. Thus, on an elementary level, an American lawyer investigating methods of social control in primitive societies does not usually question his own implicit schemata of crime, tort, and contract. An American anthropologist takes it for granted that the kinship relation is either cognate (through the mother) or agnate (through the father) or ceremonial (through a ritual); and he tacitly imposes this format on to situations which may be regarded quite differently by their African participants. One man's account of another depends on both of them: what Peter tells about Paul reveals as much about Peter as it does about Paul. (A similar problem exists for the historian; see Chapter IS.) But the difficulty is more deep-seated. Thus, Peter Winch, following Wittgenstein, writes,

Where it is appropriate to speak of "understanding how things really are," it is a mistake to suppose that ... methods of investigation are necessarily in competition with each other.

The primitive belief in magic is tied into a world view or con-
ceptual structure which defines "reality" and "rationality" in its own way. Primitive people are imprisoned, just as we are, in a universe of discourse—a "language game" or "form of life"—which, it is argued, cannot criticize itself because it provides the only tools of criticism. Like trains on parallel tracks, disparate conceptual structures of reality cover the same ground but never intersect.

This view, however, like the sociology of knowledge, metamorphoses an empirical difficulty into a theoretical anomaly. It ignores confrontation and growth. (A homely personal anecdote: when as a boy I first set out for school, my mother warned me solemnly against eating hamburgers in restaurants. They were filled with leavings and sawdust, she explained, and were little better than poison. I did not doubt her—why should I?—and would to this day have continued to think so, were it not that I saw other boys eat them and thrive. Does not knowledge grow in just this way?) If our ideas were never challenged—if we never saw that there were other tracks—if we did not grow, and learn, and travel—then our beliefs might in fact never change. Why should conceptual structures of reality and rationality differ in this respect from food taboos? To live a "form of life" is not ipso facto to exempt it from self-scrutiny.

Social self-awareness is as hard to come by as personal self-knowledge (see Chapter 18); and, just as the trained psychologist may be able to predict your own actions more accurately than you yourself can, so the anthropologist may reach a more thorough comprehension of the customs and mores of a society than the society's own members have. You need not, in order to state the rules, "know them from inside." Beware the mystique of empathy. Beware the confusion of experience with knowledge.

I cannot persuade the astrologer that his theory is nonsense (I have tried!); nor can he persuade me that it is scientific; but does this stand-off imply that his predictions are exempt from scrutiny? or cannot be appraised on their merits? The Jehovah's Witness and I do not appreciate each other's strong opinion about blood transfusions; but is there then no objective science of medicine? The metaphor of parallel tracks is false. It assumes what is not the case, namely, that it is possible to traverse the same ground with tracks that never make contact. For all descriptions of human experience must eventually come to grips with, and be tested in, that same realm of human experience. The "facts" are indeed dependent on language and on hypothesis, but we can
and do learn other languages and strange hypotheses; "seeing" is indeed seeing-as and seeing-what-is-the-case, but we can and do examine each other's interpretations. If there should exist essentially neutral data which can be conceptually accounted for in more than one way, and if these conceptual formulations have no observable differences between them, and are equally satisfactory in predicting and controlling events, then any differences between them would be purely terminological; that is, their Jamesian "cash value" would be the same. There is no logical obstacle to an objective science, natural or social, provided that human beings continue to grow and to experience and to inquire; that is, that they continue to become human.

There are problems in my ability to understand other cultures; but those problems are not different in kind from the problems in my ability to understand my own culture; or indeed my own family; or even myself. These problems are not insurmountable. I started this chapter by referring to the claims of the Verstehen theorists that there is a difference between understanding why a leaf flies in the wind and why a man flies from a mob; and that, therefore, you can't study men as you do leaves. Of course that is true; but it is a truism. For you can't study ancient men as you do contemporary men; or primitive men as you do civilized men; or men as you do women; or men as you do children; or men as you do apes; or men as you do leaves; or other men as you do yourself. But the requirement of the justification and optimum organization of knowledge remains constant.