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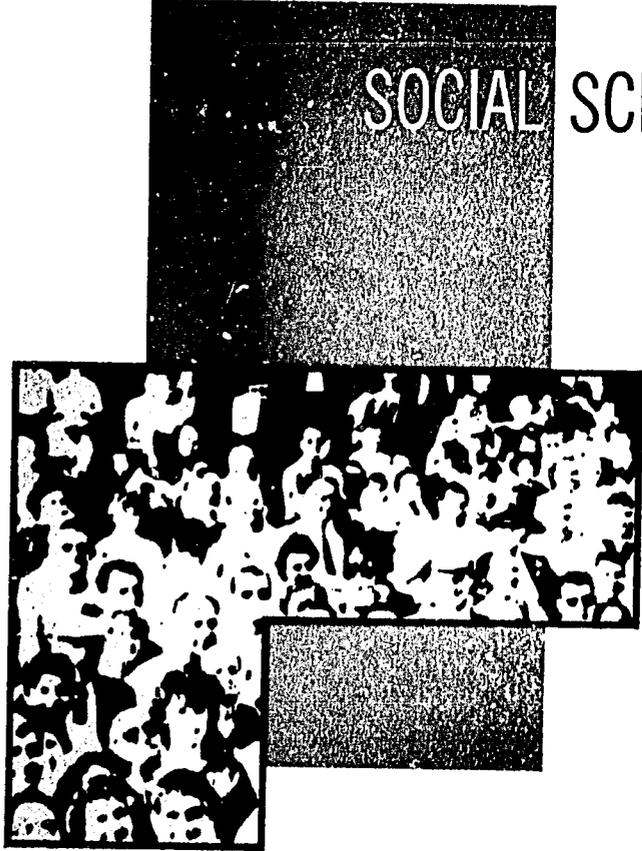
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VALUE JUDGMENT
AND
SOCIAL SCIENCE



EUGENE J. MEEHAN

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**VALUE JUDGMENT
AND
SOCIAL SCIENCE**
Structures and Processes

EUGENE J. MEEHAN
University of Illinois

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FOREWORD

A generation of political and other social scientists have grown up impressed by Hume's distinctions among statements of fact, of value, and of logical implication. The conclusions drawn from Hume, most notably by Sabine, whose widely influential text on political theory taught many of us, have been unfortunate. While the early post-war acceptance of a crude logical positivism has passed, that philosophic fad has not been replaced by a more satisfactory solution to the problem of valuation. The upshot is that social scientists, and more particularly political scientists, are in the unhappy position of seeming to believe that reason and evidence have persuasive roles in scientific inquiry but are somehow either absent, or radically different in their efficacy in evaluation. Since it is through evaluation that we determine what is important, it comes perilously close to saying of the important we have nothing important to say. Of course no serious scientist can accept this, at least in respect to his own work. The grave consequence of this unresolved dualism of science and evaluation is the stultification of the evaluatory enterprise. This situation has not been grievous for the natural sciences, though Hiroshima and its sequel have given natural scientists much

to think about. For social scientists concerned with human affairs, the evaluatory impasse has meant a serious lack of direction and entrapment in an outmoded view of science as a descriptive enterprise uninformed by human purpose.

Because purpose is essential to the establishment and progressive development of canons of relevance, Professor Meehan has felt it necessary to write a companion essay to his earlier work on explanation. The aimless institutionalism of contemporary political science stems from an intellectual history that is bemused by a model of science deriving from Newtonian mechanics, a view of "scientific truth" developed by the nonpracticing philosophers of science and the Humean distinction of propositions of logic, fact, and value. This intellectual confusion has been tolerable in the natural sciences that have paid scant attention to the practical implications of the philosophers of science. A more confident social science, economics, has proceeded, with sublime disregard of the philosophers and their model of science, to develop abstract models of beneficent games and proposals for the improvement of human practice. Despite the fashionable deprecation of welfare economics among economists, few of them have doubted their concern with welfare. This concern importantly accounts for the comparative success of the discipline. Concern with proposals for practice, consciously calculated intervention strategies, provides the most hopeful means for editing and improving social theory. Professor Meehan's review of the professional philosophers and their ethical theories has found them unhelpful and, because of the critical importance of evaluation to social science, compelled him to try his hand at formulating a more promising approach.

Professor Meehan's view is that the Humean distinctions between propositions of logic, fact, and value are no less and no more fatal for evaluation than for scientific expla-

nation. Explanation, as he has attempted to show, involves a logical calculus entailing consequences. The logic is in the calculus; but if the real life situation is sufficiently isomorphic to the calculus, the logic of the calculus can be applied to the real-life situation and the intervention strategies the calculus suggests will be useful. The logic of the calculus is unaffected by the facts. What the facts do is determine whether and where the calculus holds—its utility. Evaluation in Professor Meehan's view, like explanation, generates expectations as to real-world consequences. These real-world consequences are as much the arbiter of the human usefulness of a set of values as any set of facts that test a scientific explanation. Values, like explanations, are human instruments and derive what validity they possess from their practical operation. However, like the chance-discovered natural tools of savages and the useful explanations embedded in ritual and myth, they need to be removed from the realm of natural evolution to that of systematic critical examination and test. The evaluatory enterprise, like that of science, can have a humanly significant, ongoing, self-corrective career.

We are not bemused by the fact that a hammer is an instrument devised in action for the purposes of action, and improved in action for purposes of action that themselves improve with the improved possibilities the hammer's improvement opens up. Sextus Empiricus' arguments on the criterion against the dogmatists hold no terrors of an infinite regress for the improver of hammers. Like Sextus the skeptic, the improver of hammers—quite undogmatically unconcerned with the metaphysical impossibilities—goes on in a humanly meaningful way to improve his hammer. Unwittingly agreeing with Marx that “heretofore the philosophers have only interpreted the world, the important thing is to change it,” he goes about changing it. And men

by their practice agree that he has made an improvement. The cumulative direction of the change makes clear that the "improvement" is no mere fad. Hammers and hammer improvers are, except for philosophers like Plato, questions too petty or prosaic for serious philosophy. What their serious consideration suggests is, however, of major importance. The demands of linear logic are relevant to criticism and to proof; they do not apply to discovery and development. Modern awareness of the feedback loop should free us from fear of the infinite regress. We repair the ship at sea, using what we have and can develop and with purposes evolving in the process.

Is this a cause for despair? Far from it, we have scarcely begun to use systematic logical criticism of our value systems and to confront them with both their logical entailments and their factual outcomes. It is Professor Meehan's conviction that the evaluatory enterprise can have a history that is more than a catalog of changing fashions. Men can, by taking thought and testing consequences, differentiate the human society from the empire of the forces of nature. For no discipline more than political science is it important to evaluate purposes and thereby clarify and justify its own purposes. Can we not offer convincing reasons for claiming that political history exhibits quite defensible examples of political improvements, that the political as opposed to the physical execution of the kings' ministers was such a case, that Khrushchev alive rather than with a bullet in his head is such another? Professor Meehan not only thinks so but thinks it important that we carefully think why we are justified in thinking so and what thinking about that kind of thinking entails for the social sciences.

Norton F. Long

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September, 1969

E. J. M.

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CHAPTER ONE

INTRODUCTION

THE area of inquiry and speculation variously identified as “ethics,” “moral philosophy,” “value judgment,” “normative judgment,” and so on, is perhaps the most confusing aspect of contemporary intellectual life. Those who deal with such questions differ enormously in terms of the goals they pursue, the concepts they employ, and the modes of reasoning they accept. Philosophic idealists continue their search for essences and imperatives with almost total disregard for the accomplishments of modern critical philosophy. Moral philosophers of the English school defy the endurance of their readers with endless disquisitions on the shades of meaning discernible in the everyday use of value terms. Strict positivists dismiss value judgment as mere emotional response or ejaculation. Not surprisingly, there is little agreement among philosophers on the meaning of concepts such as “value” and even less agreement on the criteria of adequacy that should be applied to normative argument or used to settle disagreements about values. The social scientist who turns to moral philosophy, or to traditional political and social philosophy, for assistance

with his critical and evaluative problems finds little that is useful and much that seems trivial, misleading, irrelevant, or obscure. Even when the philosophers do their chosen work well, the results are not particularly helpful for the social scientist because the questions discussed are not relevant to his problems. Moral philosophy is not usually conceived as a guide to action or choice, yet that is precisely what the social sciences most need, and indeed must have.

Under the circumstances, it would be pointless for social scientists to search for ways of using what moral philosophers have produced. Instead, they need to create an approach to value questions that is relevant to the kinds of problems that arise out of their work, to the kinds of problems that man must somehow solve in order to live in society with other men. If the meaning of "value judgment" can be stipulated in terms that relate to human capacities and human needs, value judgment can be made amenable to reasoned criticism. That is, once a definition of the concept is agreed, the conditions that must be satisfied before value judgment is possible, the structures and processes involved in the act of judging, and the points in the process that are open to criticism can be identified. It should then be possible to suggest standards of criticism or at a minimum the conditions needed for reasoned criticism. A primary goal of this essay is to produce such a definition of "value judgment" and to explore its implications. Since it is not intended to be a contribution to traditional moral philosophy there are few references to historical figures, to originators and precursors, to the vagaries of common usage, or to the other philological aspects of normative discussion. I have tried to raise the questions that social science must try to answer, not to answer the questions

traditionally considered part of moral philosophy. The goal is a useful handbook for those who wish to produce responsible, systematic social and political criticism or evaluation.

The focus of the work is analytic rather than empirical, methodological rather than substantive. I am seeking to identify the way in which value judgments are made so that the essentials of the process can be examined, not to make value judgments. A value judgment is an intellectual instrument or tool, no different in kind from an explanation or a description. Value judgment, as a process, requires structures and procedures that are the same analytically, whatever the content of the empirical situation, just as explanation depends on specifiable structures and processes regardless of the phenomenon being explained. At this level of generality, some very useful things can be said about the adequacy of value judgments and the kinds of criticisms that can be applied to them. Ultimately, value judgments are made and tested in some concrete empirical situation. But given an agreed definition of terms, some of the conditions that must be satisfied before value judgments can be made can be specified without regard to the facts of any particular case. Such specifications are an important critical tool. For example, if a value judgment is an expression of preference, a proposed value judgment that specifies only one outcome is improper and incomplete, whatever the situation to which it applies, because the term "preference" implies comparison and comparison requires two or more class members. Methodology is useful chiefly as a razoring device, as a source of criteria for eliminating rather than establishing explanations and evaluations but it can also tell us "what to look for," what the qualities of an adequate explanation or evaluation must be, and such knowledge is extremely useful in any serious

inquiry, if only as a way of eliminating wasted expenditure of time and resources on useless or unanswerable questions.

The approach to value judgment advocated in what follows is controversial, and even polemical, with respect to much of contemporary philosophy—social, political, or moral. The reader should be aware of the points at issue, the changes proposed in our approach to value questions, but the controversy cannot be eliminated—and in fact seems desirable. Every attack on significant human problems necessarily involves some conflict or disagreement with others who have treated the same questions; it would be pointless to write more if there were no disagreement with what has already been written. To put the point another way, any philosophic position, whether methodological or substantive, implies accepting one set of possibilities and rejecting others. Intellectual improvement is the child of such controversy and may in fact be contingent on the rejection of received wisdom. As Bertrand Russell remarked, modern science very frequently began with an attack on some part of Aristotle's teachings. Granting that disagreement should focus on ideas rather than personalities, in moral philosophy as in science, and that the points at issue need clear and accurate identification, the mere fact of controversy or tendentiousness is no reason for dismay and no cause for rejoicing, though it is perhaps more likely to be the latter than the former.

In the context of contemporary philosophic discussion, this essay is concerned primarily with the "fact-value" question, or more precisely, with the relation between descriptions and explanations on the one hand and value judgments on the other. Together, they must comprise what is meant by facts and values. Since David Hume pointed out the logical disjunction between propositions

that use the verb “is” and propositions that use the verb “ought,” the much-heralded “gap” between facts and values has had a pervasive, and pernicious, influence on normative discussion, most particularly in the social sciences. Hume’s logic is impeccable. But the implications to be drawn from the logical separation are not entirely clear. Extremists of various persuasions have assumed as a matter of course either that Hume had demonstrated that facts are not relevant to value judgment or that rational calculation has no part to play in evaluation. Neither position is tenable. The close relation between explanation and evaluation will be demonstrated below; the importance of logical reasoning in value judgment can also be established beyond doubt. Further, Hume’s conclusion does not imply some intrinsic difference between factual and normative argument that forces man to use wholly different structures and processes for each purpose, though without an assumption of this kind complaints about the stultifying influence of the fact-value gap make little sense. The assumption apparently rests on a misconception of the explanatory process as much as on a misconstruction of the meaning of evaluation. If explanations were statements about *reality*, and in some sense true or false with reference to empirical evidence, they would be radically different in kind from value judgments. The latter are never true or false. The logical truth that value propositions cannot be deduced from factual premises is apparently taken as evidence for that assumption. But from the instrumentalist’s point of view, the assumption is untenable because it involves a mistaken notion of the relation between description, explanation, evaluation, and external reality. Granting that a value judgment is not a statement about “reality,” and that it cannot be “proved” by reference to factual data (and indeed,

cannot be disproved logically by reference to such data) it does not follow that an explanation *is* such a statement. While descriptions, explanations, and evaluations relate to empirical observations, they cannot in either case be deduced from observations, nor are they "discovered" in the external world. The universe in which man lives is created by man and not discovered. While the naturalist's view that there is something "out there" that leads to observations is tenable, man can say nothing about what is "out there." Both the explanatory universe and the normative universe must be created by man; neither can be deduced from observations and neither is a statement about reality. Man can only discuss his own perceptions. The gap between fact and value is as readily misconstrued by mistaking the meaning of "fact" as by distorting the meaning of "value."

The major thrust of the argument is to weld value and fact into an integral unit that is broken only analytically and to demonstrate both the remarkable similarities in the processes and structures used to explain and evaluate and their interdependence. Value judgments, like explanations, are created to fulfill human purposes. They depend absolutely on empirical evidence and rational calculation. Man has no other tools at his disposal for dealing with the environment. The alleged special status of value judgments, to the extent that it implies special personal qualities or competence in noncognitive behavior, cannot be justified. While the content of the postulates needed for value judgment is different from the content of the postulates used in explanation, the forms and processes are the same and the role of empirical evidence and rational calculation is prime. The extent to which the need for empirical knowledge and cognitive skill have been excluded systematically from moral philosophy (with some few notable exceptions)

is remarkable but the fact of past indifference is not evidence to justify continued indifference.

Given this conception of the relation between facts and values and of the role of empirical evidence and rational calculation in value judgment, most of the more controversial conclusions in the essay follow as necessary conditions for making adequate or acceptable value judgments. Idealism is rejected because the kind of absolute, universal rules that it demands are beyond man's capacity to establish. Emotivism is rejected as the sole basis for ethics because the results of emotional response are not sufficiently stable to provide a useful standard of choice or action. Rigid empiricism or "scientism" will not do because it denies even the possibility of defending value judgments by reasoned argument and leads eventually to normative "know-nothingism." In much the same way, and for many of the same reasons, postmortems on past behavior are abandoned in favor of concern with the future consequences of present behavior (man has no legitimate control over the past), and concern with blame, retribution and punishment is replaced by concern for the future impact of human choice on other humans. Stability in the realm of values is sought through emphasis on procedure and testing rather than through emphasis on substantive content. The latter will vary with the empirical situation while the former will not, and in ethics, as in mathematics, the quality of the reasoning is as important as the conclusion. The crucial point in ethics is to avoid ossification, and that requires an experimental attitude toward the acceptability of any conceptual structure, whether explanatory or normative. In ethics, as in explanation, men must learn to use history without becoming its slave, to derive lessons *from* history and not to seek to comprehend alleged lessons *of*

history. The lessons, whatever their form, are human creations, not external or objective factors.

A major goal of the book is to demonstrate that value judgments can and must be treated rationally and empirically, to indicate the relation between value judgments, the empirical world, and the realm of logic. The organization of the material is dictated by that purpose. Chapter Two contains a definition of "value judgment" that is linked to human purposes and needs and is amenable to reasoned criticism. The basic structure of the descriptions and explanations that value judgment requires is examined in Chapter Three. The organization and structuring of descriptions and explanations needed for value judgment is set forth in Chapter Four. Finally, Chapter Five treats the more narrowly normative dimensions of value judgment, the structures and processes actually involved in a normative choice of action. The complete volume constitutes a sustained argument in favor of a particular approach to value judgment. The approach offers no panacea; indeed, its use may make value judgment more difficult rather than easier. But it does deal with a process that man must master and can master, and it provides a framework in which fruitful discussion of that process can take place. In effect, it offers a genuine possibility of allowing man to cumulate experience and thereby improve the quality of his performance in an area whose significance for mankind is beyond argument.

CHAPTER TWO

DEFINITION

WHEN a fairly strict definition is proposed for a concept with a long history and a complex set of associations in the language, there should be good reason to suppose that the restrictions will prove beneficial and precautions must be taken against the confusion and misunderstanding that are likely to arise out of a special use of the term. The need for more clarity and precision in discussions of value judgment hardly requires argument, given the present state of the field, and a narrow definition will contribute to that end. More important, however, the utility of the definition of value judgment proposed below can be defended on general methodological and empirical grounds. First, because it is linked to empirical indicators, it promotes systematic consideration of a kind of human behavior that is everywhere present and enormously important. Second, because the definition is not idiosyncratic it provides criteria of relevance for dealing with the body of recorded normative discussion, for extracting what is useful from the corpus of moral philosophy.

Every term already in widespread use has a variety of

meanings attached to it; each particular use of the term selects from among those meanings. Communication demands agreement on such usages. Since there is no way to decide what a value judgment "really" is, agreement on a label or definition may seem trivial. After all, it is said, any term can be defined in any way so long as the definition is clear and the usage is consistent. But that is the case only where nominal definitions (purely formal definitions) are concerned. When concepts have empirical relevance, the term or label used to designate the concept may not be very important ("A rose by any other name. . ."), but the empirical indicators must be specified unambiguously if treatments of the phenomena are to intersect. Without agreement on meaning, it would not be possible to salvage what is useful in moral philosophy; a restricted definition facilitates reasoned criticism of the great body of normative philosophy that man has accumulated by providing a basis for separating discussions relevant to meaningful human problems from the morass of Platonism and scholasticism in which they are so deeply embedded.

What is equally important, and perhaps decisive, ignoring historical considerations and even the replacement costs of philosophic speculation, is the urgent need for social scientists to begin cumulating knowledge and developing critical capacity with reference to normative choice. Analytically, normative choice is a part of *every* human action. And the present disjunction between those who seek theories and explanations for empirical social phenomena and those who are mainly concerned with normative questions cannot be eliminated without agreement on meanings, yet the disjunction is harmful to everyone concerned. The evaluative and explanatory modes of inquiry are demonstrably related in such intimate ways that each is seriously handi-

capped by the separation. Explanations uninformed by value judgments are impossible, speaking strictly, or pointless. There are few areas in social science where relevance can be defended on theoretical grounds, as in physical science, hence the justification for inquiry will nearly always require a normative judgment. Without values, man is condemned to random search or haphazard groping. On the other hand, normative judgments that make use of poor explanations (and every normative judgment requires *some* explanation, implicit or explicit) are worse than worthless because they are misleading. The man who knows he has no tool is better off than the man who has no tool but does not know it. Without criteria of significance, then, the search for explanations can only be governed by fad or by tradition; neither inspires confidence. Without some explanatory capacity, value judgments are little more than idle speculations, unworthy to be called choices. To put the matter as succinctly as possible, explanation and evaluation must prosper together or they will not prosper and man will be the loser for it. My purpose here is to show that it is possible for both to prosper and to indicate the structures and processes that are required. Hopefully, the quality of our value judgments can be improved; at the very least, we can know what that quality is, whether or not we can improve it.

ASSUMPTIONS

A definition for the concept value judgment that is useful for the social scientist will relate the term to a kind of human activity that is presumably very significant in human life, that is open to observation and control, and that relates sufficiently well to the kinds of questions that

moral philosophers have discussed in the past to allow maximum benefit from such prior discussions and thus provide some support for the assumption of significance. Clearly, the activity will be mental rather than physical, a cognitive choice rather than the act reflecting the choice. And the way in which a mental or intellectual act is conceived or defined will depend primarily on the methodological assumptions of the inquirer and particularly on his epistemology. That is, what is considered possible or impossible for man and by implication what are held to be the limits within which all intellectual activity occurs will depend upon the epistemological assumptions of the inquirer more than on any other single consideration. Since the fundamentals on which this volume is predicated have already been set forth in some detail elsewhere, it would be redundant and time consuming to rehearse them all here.¹ But the bare bones of the argument must be exposed if only to allow the reader to follow the line of reasoning on which the proposed definition of value judgment depends and to criticize it.

In very general terms, the approach to inquiry accepted here combines empiricism, naturalism, instrumentalism, and pragmatism, but without dogmatism. The prime assumption is that man can acquire information about the environment only through the sensory apparatus. It follows that human propositions relate only to human perceptions and not to the "external reality" to which they may refer. Words, concepts, theories, evaluations, and so on, are taken to be human creations, related to man's perceptions and not to the qualities of the "real world." They are in every

¹Eugene J. Meehan, *The Theory and Method of Political Analysis* (Dorsey Press, 1965), and *Explanation in Social Science: A System Paradigm* (Dorsey Press, 1968).

case tools or instruments that man creates for his own purposes. Tools or instruments can be evaluated or criticized only in terms of the purposes for which they are intended. Even in the case where the tools themselves are purposes, there can be no "general" criticism, no "true" point of reference or universal standard of criticism. Given this view of the meaning of "concepts," man can assert nothing "true" about the empirical world because there is no way to support such assertions. The concept of "truth" is reserved for the realm of formal logic or mathematics. Instead of searching for truth, for coincidence with an absolute standard, man must use the pragmatic test of applying assumptions to the environment and judging their worth by their usefulness or utility. The ultimate court of appeal for all intellectual instruments, whether they are assertions of preference or claims to know, is application to the environment, testing against purpose. In this way of thinking, descriptions and explanations appear as the tools that man uses to organize his perceptions of the environment and create expectations about future changes in that environment in ways that can be used to channel behavior toward particular goals. Value judgments appear as the instruments that provide man with the purposes or goals he strives for, with the rules of choice that are needed to determine the course of human behavior. Intellectual life is concerned mainly with the development and application of useful tautological structures.

The negative implications of these assumptions are most important. The idealist's pursuit of essences and absolutes is rejected, in normative inquiry as in the search for theories and explanations. While the idealist's claim to know absolutely cannot be refuted, the idealist cannot provide evidence for his claim that will withstand criticism, or has

failed thus far to do so. Man must have reasons why certain propositions should be acted upon in stipulated circumstances—why certain expectations should be entertained or why certain goals should be pursued. Empirical knowledge comprises a portfolio of patterns and models that man has successfully used to generate expectations about changes in the environment under stipulated conditions. It will be argued in what follows that what we may call moral knowledge consists also of collections of patterns that can be applied to specified situations to produce known outcomes with high reliability, though in this case the function of the pattern is to relate sets of principles or purposes to sets of alternatives. When no reason can be offered for entertaining expectations about the environment, or for expressing a preference for one outcome rather than another, the situation under examination is empirically or normatively indeterminate. Explanations, in effect, generate expectations about the consequences to be expected from different kinds of human behavior in a given situation; evaluations impose a preference order upon those consequences, thus providing man with a basis for choice.

On the instrumentalist point of view, the challenge of the human condition must be met solely from man's self-created resources—by using the creations of the human intellect. Whether he is concerned with the physical environment or the social environment, man must formulate and solve his problems using the same processes, subject to the same limitations, in the sense that a digital computer must cope with all of the problems fed into it using the same processes, whatever the content or meaning of the problem. While the human calculating apparatus, the sensory and nervous systems, is not precisely analogous to a digital computer, its processes are fixed and its capacity is

determined by those processes. The central feature of the intellectual enterprise is the brain's capacity to generate concepts and relational principles that can be used to organize both the impulses created in the sensory system by changes in the environment and the secondary impulses generated within the nervous system by the various kinds of ratiocination and nondirected thinking. Closely examined, human knowledge is a mass of applied tautologies, but the sum of man's impact on the environment is ample evidence of the power of tautologies when they are properly linked to observations. The principal difficulty facing the inquirer stems from the mixed quality of the intellectual structures that man has created. Critical standards are needed to separate gold from dross, particularly in social science, and most particularly with respect to normative affairs. Pragmatically, such standards depend on the processes and instruments needed to create knowledge, and they in turn are conditional on the purposes for which knowledge is needed, whether empirical or normative.

Man's need for intellectual instruments that will give him purposes with reference to the environment and better-than-random means of seeking those purposes is absolute. The relative absence of instinctual patterns in man is well known. The perceptions that enter the central nervous system are partially ordered by the sensory organs, but the level of organization is much too slight for human survival, even at the brute physical level. Further organization is absolutely essential. Fortunately, as the supply of knowledge available to man increases, so does man's capacity to create complex patterns for relating perceptions and formulating goals—knowledge generates its own need for more knowledge, its own rationale for the search for knowledge. That is the dilemma posed by rapid advance in physical science

and relative backwardness in the social sciences and humanities, by extensive rationality in one set of fields and relatively little rationality in others. Happily for man, the very language he speaks provides a basic instrument for organizing perceptions; merely by being socialized to the use of a language, man stands already on the shoulders of his predecessors, however shakily, and here the implications of cultural differentiation, and of differential socialization within a culture, are distressingly clear. The major point to be made is, however, that even the simplest of descriptions is an act of creation and not an act of discovery, an imposition and not an appropriation.

Man cannot "see" the contents of the environment merely by virtue of possessing an unimpaired sensory apparatus; man learns to "see," learns to impress a pattern on the perceptions of the environment flowing into the nervous system. In these terms, man must learn to anticipate sequences of events in the environment on the basis of partial and imperfect information, to foresee events and adapt to them, to control events, however imperfectly, in order to survive. Various devices have been developed for these purposes—science, religion, magic, ritual, folklore, and so on. Some are demonstrably better than others, at least in the sense that damning grasshoppers with bell, book, and candle is clearly inferior to a good dose of DDT if the objective is to eliminate the grasshoppers—though not, perhaps, if the objective is to demonstrate piety. For our purposes, the two most significant kinds of non-normative tools man requires are the description and the explanation; they comprise one major segment of human knowledge, and they are analytically essential for reasoning that is relevant to the environment and open to qualitative criticism. They are examined in more detail below.

TOOLS AND PURPOSES

Man the inquirer is man the toolmaker, the creator of instruments. Tools presume purposes. Hence the search for knowledge is a search for the instruments that can be used to achieve human purposes. A tool without a purpose is a contradiction in terms, a Rube Goldberg affair that is not only unworthy of serious attention but is in fact beyond criticism, since there can be no criteria for evaluating it. It follows that the purposes for which tools are needed must be known before the tools can be developed and that those same purposes supply the criteria needed for evaluating the tools. Given the epistemological assumptions from which this discussion proceeds, human knowledge must serve three fundamental human purposes and can be evaluated by reference to them. First, man must organize, structure, and label his perceptions of the environment so that he can recognize patterns and link them together; that purpose is fulfilled by descriptions. Second, man must learn how to anticipate and control events in the environment, to adapt his behavior to events and to control events according to his own wishes and desires; that requires an explanation, or in some cases, a forecast. Third, man must be able to express a preference for some outcomes rather than others; otherwise he is frozen into inaction. Every human action, including the failure to act, is an expression of preference or a choice. The human purpose that value judgments or normative judgments (the two terms are here used interchangeably) fulfill is the expression of preference.

Obviously, these three purposes do not exhaust the range of human interactions with the environment. Man can relate to the environment esthetically, emotionally,

senselessly, and so on. They do, however, define the minimum necessary conditions for *reasoned* or calculated interaction with the environment, hence their importance here. Without some capacity to organize and structure perceptions and thus to create expectations about the future, and about the results of acting in different ways, man has no alternative to random or unstructured behavior. At best, random behavior is futile, since it generates no learning, leads to no cumulation of human capacity to deal with the environment; at worst, it can be catastrophic. While there are various ways to fill the gap between man's needs and his capacities, most of them function by replacing one unknown by another and are instrumentally worthless, disregarding the psychic benefits that may result from acquiring an "acceptable" basis for behavior. What is truly discouraging about the contemporary human situation is the extent to which most men, in most situations, act on grounds that are little better than those employed two millenia ago. Affairs of enormous importance for countless millions of persons are arranged on the basis of argument that is worse than random activity, since it is embedded in a cultural value system that effectively precludes testing. The quest for social knowledge has a long history but a very poor record of achievement.

The basic instruments available for achieving human goals with reference to the environment are the description, forecast, explanation, and value judgment. Some knowledge of the structure, use, and limitations of these tools, and of the way in which they are interrelated, is essential for any adequate formulation or criticism of value judgments. A brief summary of their salient features follows; a more detailed discussion of descriptions and explanations is found in Chapter Three. The amount of

repetition is slight and may even be useful, given the complexity of the problem.

A *description* organizes perceptions by grouping them into classes, by relating them according to a rule of inclusion or exclusion, and by linking those classes with appropriate relational concepts. Excluding the concepts needed for grammatical or syntactical purposes, a concept is simply a rule for ordering perceptions. Since there is neither possibility nor need for man to begin with a blank slate, the intellectual enterprise begins with a set of concepts embedded in a language and focuses primarily on addition, clarification, deletion, and so on, based on experience. The point cannot be made too strongly that intellectual endeavor, normative or explanatory, is always contingent upon prior conclusions, even when those prior conclusions are being tested.

Structurally, a description consists of a set of variables or concepts whose values have been determined by observation. Descriptions are always specific and particular; they relate to the past and never to the future; they contain no general terms such as "all" or "some." The set of concepts used to describe a situation depends on both the perceptions of the observer and the conceptual apparatus he employs. If an observer is not interested in daisies, he will not include them in his description of a field even if they are present; on the other hand, he cannot include them in the description if none are to be seen—though he might, of course, state in the description that there were none to be seen if that was important. The question, "What is described?" is difficult and can only be examined summarily here. Strictly speaking, man can say nothing about what is "out there" to generate perceptions, though there seems no good reason to follow Berkeley and argue

that everything therefore lies in the human mind or the mind of a deity. Descriptions refer to the perceptions and not to “whatever” is out there to cause them, whatever the “whatever” may be. How, in that case, can it be known that two persons are describing “the same thing”? In strict terms, it cannot be *known* with certainty. But it is possible to give reasons for assuming that “the same thing” is being described by a multiplicity of persons and to stipulate rules of observation that will increase our confidence in the assumption—such rules and reasons are all that man needs to act, but it should be borne in mind that he is acting on an assumption, not on the basis of “true” knowledge.

Descriptions are always static. A record of change can be embedded in successive observations, as in a motion picture film, but “change” is actually an inference and not an observation—a point we owe to Hume, for those who keep track of such matters. Since no set of concepts can exhaust the descriptive potential of any situation, since it is in principle possible to organize any set of perceptions in an infinite number of different ways, there can be no such thing as *the* description or account of any situation. It follows that the selection of concepts actually used in a description is a choice that requires justification, usually on normative grounds. The point is most clearly made by referring to some of the classic examples of observational myopia—the man who applauds the grandeur of the city but avoids its filth and poverty, or less tendentiously, the man who walks the forest path and fails to see or hear the birds, or perhaps even the trees. Selection of variables for description requires a value system in all cases where theoretical relevance cannot be established, and even in the latter case, ultimate reduction to value considerations is always possible. The alternative is meaningless description.

A *forecast* is an instrument that creates anticipations about future events in the environment by relating one set of changes to another but without suggesting *why* the changes occur or how they might be altered. Statistical projections of the number of traffic accidents to be expected on a holiday weekend are common examples of forecasts. They are usually made by projecting figures from previous years, but there is no implication that accidents in previous years have any influence on the present, nor do such projections suggest any way of modifying the number of accidents. The accuracy and reliability of forecasts vary widely. They may be based on any set of relations so long as a desirable level of accuracy can be maintained. For example, weather forecasts may derive from accurate reasoning and strict observation, or they may be based on the pain felt by a local resident in the region of the knees. There are various ways of improving their quality and accuracy, and they are extremely useful tools. Forecasts allow man to alter his behavior in ways that are appropriate to anticipated changes in the environment (carry an umbrella when rain is expected) without suggesting ways to modify the environment to suit human purposes or needs.

An *explanation*, like a forecast, generates expectations about changes in the environment, but it also suggests the way in which variables interact to produce those changes, and thus provides an intervention strategy by which man might, in principle, exert some measure of control over the situation. An explanation relates a set of variables or factors by rules of interaction so that changes in the values of some members of the set lead to changes in the others. The implication is that these factors are so closely related empirically that changing the value of one or more will lead to changes in the values of the others. If that is all that the

term “causal” means, an explanation consists of a set of causally related variables and the rules for their interaction, though in philosophy the term *causal* has overtones that are misleading in our context, and the term will not be used here. Because explanations assert a linkage of this kind, they always suggest an intervention strategy, a way of altering the situation in which the explanation applies or holds, though that strategy may not be feasible or practical. Since explanations generate anticipations by linking two or more sets of changes, the implication in an explanation is that any action that will cause a change in the value of one or more of the variables in an explanatory set will lead to foreseeable changes in the values of the other variables.

Structurally, then, an explanation consists of a set of variables and the rules relating changes in their values. Together, they form a *system*. Strictly speaking, a system is a formal calculus, a logical structure whose implications can be calculated perfectly—as in arithmetic or geometry. Given a triangle, if the value of one angle is held constant and the value of the second angle is changed, the value of the third angle *must* change, given the rules of plane geometry, or lead to contradiction. An explanation, then, consists in part of a formal logical structure able to generate entailments or consequences that can be calculated exactly. But explanations refer to empirical situations, not to formal logic; hence the system must be given empirical relevance, linked to an empirical situation, so that the consequences calculated within the logical system have relevance in some empirical situation. That is done by “loading” the calculus, by assigning empirical meaning to the variables but leaving the rules of interaction unchanged. If the loaded system fits an empirical situation, if it is isomorphic to that situa-

tion, anticipations generated within the calculus can be held with reference to the situation. Explanation, as a process, is applied logic or mathematics. The unique capacity of formal systems to generate warranted expectations about the consequences of changes is used for human purposes by acting *as if* the system fitted an empirical situation perfectly, knowing that the assumption is false and the fit is always in some measure imperfect.

An explanation creates expectations about the environment in the general form: "If X occurs, expect Y to accompany/follow it," where X and Y are changes in the values of the variables used to describe an empirical situation. For example, the calculus $E = IR$ can be linked to the environment by defining E , I , and R respectively to mean the voltage, current, and resistance in an electric circuit—that is the structure of Ohm's law. Those concepts can in turn be linked to indicators such as batteries, light bulbs, and electric wires. The formal system can then generate very precise expectations about the effects to be anticipated from changes in the number of batteries connected to the light bulb, the continuity of the wires, and so on. Of course, the fit between loaded system and empirical situation is always less than perfect. New factors may appear in the environment which alter the interaction of the selected variables; the complex variables in the system may change internally and thus modify their relations to the rest of the environment, and so on. Explanations are always problematic. Yet they can be very reliable. In general, reliability depends on logical coherence, compatibility with other well-established explanations in the field, experimental evidence, and various other factors. No amount of discussion of the strictly logical properties of an explanation can establish its validity or reliability, though explanations can

be impugned on grounds of logical inconsistency. A computer can produce utter nonsense, but the nonsense will be the outcome of strictly logical processes or calculations. It is useful, in other words, to ask about the proper role of logic in inquiry but grossly misleading to construe inquiry as logic or to demand a "logic of inquiry." The processes by which explanations are established are partly field-relevant and cannot be formalized. We return to this question in Chapter Three and examine it in more detail. The point to remember is that while it is fairly easy to create a system that will *fit* a particular situation, it is usually quite difficult to produce a reliable explanation for a given event in that situation.

Explanations differ from forecasts, and are more useful than forecasts, because they contain an implicit or explicit intervention strategy, a set of instructions for altering the situation to which they refer. The intervention strategy must be possible in principle—nothing known to man must forbid it—but it need not be technologically feasible. Of course, if an intervention strategy can be used successfully, that is a very powerful argument for the validity of the explanation, but successful intervention does not guarantee an explanation, nor does the lack of technological capacity to test an explanation invalidate it. For example, the accepted explanation of the earth's climate suggests that it would be modified substantially if the vertical position of the earth with reference to the sun could be altered. The fact that man cannot at present alter the earth's position does not invalidate the explanation nor the intervention strategy it suggests. On the other hand, the belief that sickness is due to evil spirits suggests placating them by gifts or penance; such activities may coincide with recovery from illness, but that would not establish the "explanation" of

sickness involved, given present knowledge. Even if the technological competence needed to implement a particular explanation is not available, an event may still be controlled by using another explanatory system. For example, we do not have the knowledge or technology to control human behavior by manipulation of the genetic structure, and may never have such knowledge and competence, but behavior may still be controlled by other means.

Descriptions and explanations are the heart of the scientific enterprise, the foundation on which reasoned human action with reference to the environment is built. But man cannot live and act on the basis of description and explanation alone, even with reference to the purely physical environment, though the point is somewhat obscured by the current rate of scientific and technological progress. Neither descriptions nor explanations, alone or in concert, provide an adequate basis for choice, yet every human action involves some measure of choice—beyond the barest essentials such as breathing or other autonomically controlled activity. Description and explanation can generate alternative sets of possibilities, but man cannot choose among them without reference to some instrument that goes beyond awareness of possibility to preference, reasoned or unreasoned. Knowing that doing nothing will lead to *X*, doing *A* will lead to *Y*, and doing *B* will lead to *Z* means nothing, has no implications for behavior, unless man has some reason for preferring *X*, *Y*, or *Z*. A value is a rule for choosing among alternative possibilities. Without sets of values, all human actions are equally significant or equally meaningless. Every human action, implicitly or explicitly, is an expression of value or an assertion of preference.

The normative dilemma is clear. Man must act; action requires choice; choice is an expression of preference or

“value.” The consequences of action vary greatly. In very broad areas of human life, the consequences of choice are trivial, both in duration and intensity. Here, behavior can be random, unreasoned, haphazard, without fatal consequences for the self or for others. There are other areas of behavior, and they vary with the person and the situation, in which the consequences of choice may be catastrophic for very large segments of the world’s population. How can these areas be located? How can such choices best be made? These are the problems we are trying to deal with here. Lack of knowledge effectively reduces the scope of man’s normative potential in any given situation; lack of resources forces the search for criteria of choice, since it excludes choosing everything and thus avoiding choice. The best choice possible is made with the best knowledge available. There is no way for subsequent knowledge to influence present calculations. Habit relieves man of the impossible task of trying to deal consciously with all of the choices involved in day-to-day living, though it does not solve the problem of dealing critically with existing habit patterns, suppressing or facilitating others in the young. No value structure can be more than partial, beginning with the most significant elements in a situation and functioning until resources and possibilities are exhausted. When all of these limitations have been taken into consideration, the normative problem remains formidable and unrelenting—a staggering task.

Neither the Western philosophic tradition, nor the sets of values embedded in the social mores, are particularly helpful. The weakness of the philosophic tradition has already been noted. The perverseness of the sets of preferences to which men are habituated and socialized is well known. The justifications offered in support of existing

values are seldom very convincing. And there is little evidence to show that the quality of the value judgments men make improves with the seriousness of the decisions being made, and some evidence to the contrary—witness the considerations alluded to when modern governments make major policy decisions. According to the news media, and to the participants themselves, stakes of unbelievable magnitude are wagered out of irrational fear, foolish pride, conceit, ignorance, malice, and even stupidity. The vehemence with which the moralists of the age attack such idiocy seems more than justified, though the attack would fare better if the reasoning of the critics were substantially better than the reasoning of those they criticize—and that is seldom the case. Until standards of argument can be produced and defended, bad argument will continue to pile atop bad argument, and normative discourse is likely to remain at the level of endless, nonintersecting monologues—futile, exasperating, profitless.

VALUE JUDGMENT: A DEFINITION

The first step in the direction of reasoned critical standards is to agree on the object of criticism, the subject matter of the inquiry. Thus far, the meaning of “value judgment” has been left vague while the premises needed to support a definition were sketched out. A first approximation of a definition can now be made and the refinement process begun. As the prior discussion suggests, the activity involved is *choosing*, expressing a preference; values are the tools needed to make choices or to express preferences, to order or scale potential outcomes on some reasoned basis. For the moment, the question how preference scales can be generated, what justification can be offered

for making choices, is left open. Tentatively, a value judgment is defined as a choice among alternative outcomes, a selection of one outcome in preference to another in a given situation, or the application of a set of values to an empirical situation. The choice or preference need not be explicit, conscious, or intentional. Value judgment is a purely analytic concept, and the decision what value judgment has been made depends on the observer and not on the actor's intentions, though it should be possible to say whether the actor's intentions are compatible with his actions in a given situation. Every human action, including the act of doing nothing (often the most complex choice of all) implies a value judgment, whether or not the individual is aware of making it, and in fact even if the person thinks that none has been made.

Tentatively, a value judgment is an expression of preference or a choice among real options. Before that definition can serve as a useful basis for normative inquiry, a great deal of refinement is needed. A clear distinction should be made, first of all, between a reasoned choice or judgment and what may be called a direct reaction or purely emotional response. A simple, direct response to the environment involves no intervening calculations; such reactions have no cognitive dimension. A judgment, on the other hand, implies a reasoned selection, a calculation of costs, a weighing of alternatives in terms of some sort of standard or ideal. For example, I may react negatively to the sight of human flesh being cut but judge that the cutting should continue because I prefer the situation that will result (as I believe or expect) from cutting to the situation that would ensue if cutting were stopped. Reasoned judgment differs from an emotional response or an expression of taste. Emotional response is an important part of human life,

and it plays a part in value judgment, but it cannot provide an adequate basis for value judgment, taken alone, because we know empirically that man can be conditioned to respond in the same way to a variety of situations or in different ways to the same situation. It would merely beg the question to define a value judgment as an emotional response because the problem would still remain: "What kinds of responses should the individual be trained to make in stipulated circumstances?" If value judgment is to be controlled, choice must be based upon reasons. A structure of relations must be created in which the choice appears as a consequence of accurate calculations from known assumptions.

The cognitive dimension, the element of rational calculation, serves to distinguish value judgment from direct emotional response. The process of judging can lead to an order of preferences that is quite contrary to the order that the emotions suggest. Further, rational calculation can lead to support for normative principles that are beyond immediate or direct reaction, freedom of speech or human equality, for example, which are responded to symbolically rather than empirically. And the element of calculation in a value judgment provides a foothold for reasoned criticism. Emotional reactions, like acts of faith, are beyond criticism when no reasons are adduced to support them precisely because there are no calculations involved, no reasons for accepting the conclusion. Reasoned judgments may, of course, benefit from affective support, propaganda, indoctrination, or emotional appeals, in the sense that they acquire social effectiveness, particularly in large social aggregates. But such considerations are irrelevant to the quality of the value judgment and can here be ignored.

The second limit imposed on the concept of value judg-

ment is to limit its use to expressions of preference that relate to the impact of human action or choice on other humans. Value judgments relate to the consequences of human choice for human beings. An expression of sympathy for the victims of a natural disaster is not a value judgment. Although an earthquake and a bombing raid may produce precisely the same results for those they touch, the bombing raid results from human choice and is amenable to value judgment and the earthquake does not. The sympathy men feel for the victims of natural catastrophe influences behavior and plays a role in value judgment but the situation cannot be evaluated in terms of our definition because there is no element of human choice. A human agent may employ the opportunities provided by a natural disaster, shoving his enemy into the flooded stream to drown, but that is another matter entirely. The object of evaluation is human choice or action.

While the restriction may seem perverse, it is essential for conceptual clarity. There is too much divergence between human intentions and actual consequences to allow intentions to serve as a useful basis for value judgment. The same criticism holds for efforts to base values upon a classification of human actions. In either case, intentions and actions function in an environment that varies; the interaction of a constant (act or intention) with a variable will be a variable. There is no way to be sure of the outcome if either is adopted as a basis for ethics. Hence to state the value problem in terms of these concepts, for example, "What is a good intention?" or "What is a good action?" is to pose an insoluble problem. A better case could be made for judging consequences alone (in which case, our reaction to the victims of an earthquake would be a value judgment), but if all consequences are lumped

together, without concern for their origins, some very curious and unnecessary dilemmas appear. We must differentiate those situations man can influence from those in which he is helpless.

The solution adopted here is to concentrate on the evaluation of *choice*. Human choice in a specified situation leads to consequences for the self and for others. Those consequences serve as a basis for judgment. The consequences actually chosen (analytically and not empirically) can be compared to the consequences that might have been chosen (empirically) in the same situation by the same actor. Consequences are measured solely in terms of impact, direct or indirect, on man. Human actions that affect sentient but nonhuman creatures can be excluded from the realm of value judgments without serious loss because they are relevant almost solely to questions in the form "Is X a good man?" and that is in any case an unanswerable question. To evaluate a man *qua* man would require us to stipulate all of the properties needed for an adequate definition of "man," and that is an impossible task. Consider the difficulty of evaluating Jones as a lawyer, or father, or even a golfer, and these are only a few of the ways in which he can be conceptualized. Further, little would be gained by the effort, while the definition suggested here provides man with a guide to choice that he *must have* absolutely to live. Even if the reader does not agree that the conception suggested here is an adequate way of defining value judgment, the need to perform the function described as value judgment is undeniable. The task of specifying the additional meaning that should be attached to "value judgment" can therefore be left to others.

Put in slightly different terms, our definition of a value judgment requires an actor to make a choice in an empirical

situation that will have consequences for at least one person, directly or indirectly—that will change the values of one or more of the variables that define the attributes or properties of some individual or person in the situation. The actor will always be an individual person and not an aggregate or collectivity. The object person may be either an individual or a class, and the latter will usually be more important. The actor will be considered *responsible* for all of the consequences that are produced by his choice, whether he chooses to act or to remain inactive and passive. That leaves in every society a substantial class of changes that take place in the attribute variables of large classes of persons that do not result from the choice of any individual in that society—the unintended consequences of large-scale interactions. These are the outcomes that no individual can choose either to bring about or to prevent. Normatively, they are unintended and uncontrollable—equivalent to natural phenomena like earthquakes or floods or other natural disasters. The great potential virtue of government, obviously, is its capacity to serve as a mechanism for attacking and modifying hitherto unintended outcomes—bringing them under control by the creation of suitable social machinery.

While this use of “responsible” has a peculiar ring, particularly in discussions of individual and social responsibility, it is worth retaining, even at the risk of some initial confusion. Social science does not at present have an adequate conceptual vocabulary for dealing with unintended consequences, despite the prevalence of a rhetoric of responsibility. A radical terminology can call attention to the conceptual gaps and perhaps clarify some of the issues at stake. The “revolution” in communication and transportation in this century has generated an individual capacity

to create consequences for mankind without parallel in human history. The more serious normative problems of the age are social and political, arising out of the actions of individuals in positions of social power and out of the unintended consequences of mass interaction. The direct impact of man on man is trivial by comparison. While there is every reason to suppose that this condition will become even more intense in the future, we continue to deal with unintended social consequences using concepts inherited from another era in human history when the primary influence on the lives of most men was the direct actions of others. Too little attention has been given to the relation between forms of social organization and the location of individual responsibility within the organization, or to the proportion of intended and unintended consequences generated by the use of different kinds of social organization. The absence of anything like an adequate conception of representation, or an adequate treatment of the implications of representative systems as choice makers, indicates the extent to which the academic community is either unaware of, or unable to deal with, the problem. Twentieth-century man is very rapidly creating a situation in which the impact of government on the lives of individuals is very great for all men in all societies. That condition is new, particularly on its present scale, and its implications need careful study.

If one of the major requirements for adequate social criticism is the capacity to locate the individuals in society who can, by their actions or choices, remedy the conditions being criticized, then some substantial part of the consequences that affect most members of society must be regarded as "natural" phenomena, beyond normative criticism. The scope of the problem is obscured by the

widespread practice of attributing normative responsibility for social consequences to abstract institutions and corporate entities rather than individual persons. By separating the individual from his social roles (or statuses—the nomenclature is not standard), analytic clarity is attained at a terrible price in empirical accuracy and conceptual adequacy. Berle and Means long ago noted the separation of ownership and control that marked large-scale corporations. Someone should now call attention to the consequences of burying individual responsibility in the murky reaches of these same structures—public or private. If value judgment has to do with human choices that have consequences for humans (and that is an important class of human actions in any society) then social organizations cannot be moral agents because events ascribed to such organizations would in effect be placed beyond human control. And when authority over events is placed in the hand of social organizations in which the individuals who exercise power cannot be identified, the situation is only complicated further. Corporations simply are not persons in the empirical or moral sense, notwithstanding Marx's strictures or the judgments of the United States Supreme Court. What Marx quite properly emphasized was the effect of the value system implicit in a culture on the behavior of *individuals*. Social organizations are tools, the machines by which the consequences of individual choice are multiplied. To construe them as persons is to commit a gross conceptual blunder whose full implications in the normative realm have not yet been examined adequately—to my knowledge.

As a corollary, this conception of value judgment implies that consequences whose objects are organizations or institutions have no moral significance unless and until they

can be translated into specified consequences for definite individuals or classes. No more than commonsense reasoning is involved. To blame "the government" or "the X Company" for events that occur in society, or to allot credit for such events in the same language, is mere rhetoric, just as it is mere rhetoric to trumpet the virtues of "two-party system" or "democratic society" without demonstrating their consequences for individuals. The fiction is convenient; it may even be necessary. But a fiction it remains, and it can be terribly misleading, for academics as well as politicians.

Our definition of value judgment leads to radical individualism in value judgment. Is this necessary? Possible? The justification for the position is a simple *reductio*. Without men, society vanishes, social organizations disappear, and there can be no "values." No change in society can have "moral" consequences if it has no effect on the people of that society because the elimination of all of the people in society would automatically eliminate all moral considerations from the situation. A change in society that affected no living person would have precisely the same logical structure and lead to precisely the same conclusion. The social scientist must be prepared to state the consequences of changes in organization or social structure in terms of specific consequences for specific individuals or classes if he wishes to make value judgments. That requirement would soon put an end to unsupported and often grossly improper assumptions about the significance or the desirability of particular forms of social organization.

Even the conditions usually presumed essential prerequisites to the development of an adequate value system—respect for truth, integrity, freedom of inquiry and association, and so on—must be justified by reference to

their foreseeable consequences for the members of society. Again, our knowledge of these matters is extremely limited. What is the effect of restricting free access to information? Who is affected in what way? How does extension of the franchise affect different classes in society? A great deal obviously depends on other factors, such as popular expectations and the level of intellectual development of the society, but the fact is that very little is known about these questions. Not very long ago, lengthy papers were written prophesying the inability of dictatorial political systems to generate adequate scientific and technological progress. They were published in quite prestigious journals and newspapers. The success of the Soviet space effort silenced that particular form of cant without dampening the enthusiasm of academics for the faulty premises on which it depended. The assumption that free inquiry in all matters is everywhere and always desirable is only an assumption, and it may be unwarranted; our lack of knowledge on the question is evident to the point of embarrassment. For obvious reasons, I am inclined to hope the assumption is valid, but it is possible that under certain conditions the consequences of freedom of inquiry might be disastrous for large populations. Pious hope is not reasoned argument, and we cannot even be certain that we have sinned on the side of the angels until we have heard the angels' argument.

The conceptual confusion prevalent in the realm of values is very well illustrated by the status of such collectivities as the United States Senate, where decisions are made by individual voting, aggregated by majority rule. The responsibilities of an individual member of the Senate are limited by his capacity to perform; it would be futile to hold him responsible for more. But in the normal course

of events, no individual senator can use the authority of the entire Senate, hence no senator can actually “choose” the actions taken by the Senate—speaking collectively. Senate actions are in that sense “natural” events, unintended consequences of the actions of individual senators for which no man is responsible and which no man can control. This peculiar form of “amoralized” politics is widely commended by political philosophers on what seem very dubious grounds. It is argued, for example, that if each person chooses to vote as he thinks proper (after Burke), the outcome will be a form of collective wisdom, somehow cumulated by the accidental outcomes of the voting machinery. The argument is merely fatuous, as unconvincing as the belief that two unconnected computers can solve problems more efficiently than one. Again, it is said that if the senators vote as their constituents desire, the Senate as a whole will mirror the desires of the people—a goal unlikely to be achieved until the wishes of the population can be determined much more precisely than at present and in any case of dubious attraction to anyone familiar with the kinds of desires “the people” have expressed in the past.

Interestingly enough, neither Rousseau nor Plato provided much of an answer for the question *how* collective bodies might become responsible moral agencies. In Plato’s terms, a collectivity of philosophers would agree, obviously, because each perceived the “right” course of action—a solution very similar to Burke’s. In a Rousseauistic world, a collectivity might or might not act according to the general will, and he provided no criteria for deciding whether or not it had—that is one of the major weaknesses in the scheme. Probably the best solution to the problem is implicit in the ethical thinking of the same rationalists who

popularized and extended the principle of collective decision-making bodies. Given a collectivity of fully informed, rational men, each would perceive the same alternatives and make the same choices—not in Plato's sense, choosing the absolutely right choice, but in the relativistic sense, making the choice appropriate for the time and place. Perhaps they were right—the assumption has not been tested. But it would require prior agreement on values and a considerable extension of cognitive competence before continued operation of a social organization based on these principles could reasonably be expected. Representative institutions based on rational premises seem radically incompatible with mass democracy, party systems, mass communications and some of the other paraphernalia of present-day Western democracy. Whether or not differences in value judgment would remain if the descriptive and explanatory substructure were fully agreed no one can say, though it seems the case that most normative arguments are in fact related to factual rather than strictly normative matters.

One final problem. If choices are judged by their consequences, value judgment requires calculations that extend into the future. The actor in a situation must have at his disposal an explanatory system (or other projective device) that will indicate the future consequences of the various choices open to him at a given time in a known situation. Without a projection there is no basis for choice, nothing to choose. The only intellectually acceptable instruments for making such projections are the explanation and in some cases the forecast. Yet every explanation, pressed too hard, ends with indeterminacy. The antecedents of any empirical situation multiply rapidly as temporal distance is increased, and the relations among variables blur and

dissolve in a tangled web. Similarly, the future consequences of present actions mingle with the flow of events and are swiftly lost. In normative matters, men live very close to the present and immediate, within range of what has been recorded or can be foreseen. The actor has an obligation to press his projections so far as existing knowledge permits if he seeks the best value judgment possible in given circumstances but the state of knowledge of the times is decisive. Whether or not a judgment is based on best knowledge is independent of what is known to the actor but dependent on what is available to him.

The principal consequence of indeterminacy in explanation is to force moral philosophy, and philosophy of explanation generally, to rely on an evolutionary conception of the development of ethical and explanatory structures. Absolutism cannot be justified, whether revolutionary or conservative. Man has no feasible alternative to endless modification of value judgments and explanations according to the results obtained from their use. Every use of a value judgment or an explanation can and must be treated as an experiment; no complete, final, or general value structure is possible. Value standards will vary among societies and within societies, over time and within a limited time span. But if evolution is an endless process it need not be wholly without direction and changes are not always reversible. As in science, some changes preclude a return to prior states. Bernard Shaw's Professor Higgins can no more return his flower girl to the streets than a chemist can restore a lump of coal that has been burned; neither flower girl nor coal "exists" any longer. The identification of change, the charting of the course of moral development, is an important part of the sociology of values and a major stage in the development of a reasoned

argument concerning the meaning of moral improvement. There is a sense, certainly, in which the nineteenth century served as a testing ground for the principle "he governs best who governs least" and the extent to which history can provide evidence about the consequences of applying such principles needs careful and systematic exploration.

Our definition of value judgment can now be stated in more detail, though still without finality. Value judgment involves a choice among alternative sets of consequences for human beings that can be generated by human action or behavior in a given situation. The choice is judged by its consequences, therefore the standards of choice must refer to the sets of changes that can be produced in the defining attributes of the various persons affected by an action or choice. The actor must be linked to those consequences by an adequate explanation. Value judgments are always made with reference to the future; retrospection, the examination of past choice and its consequences, is an important way of testing the adequacy of a value principle but affects present choice only indirectly. Normative questions appear in the general form: "What changes are needed in this situation?" or "What choice should be made in this situation?" They are answered by referring to the alternatives attainable in that situation and by making comparisons and calculations based on accepted standards and purposes.

IMPLICATIONS

Some implications of the suggested definition of "value judgment" are explored in the remainder of this chapter. In a sense, they are no more than complications and extensions of the definition, already implicit in what has been

said about choice. They are worth making explicit, however, because they are needed to develop criteria of adequacy that can be used to criticize value judgments.

1. Value judgments must lie within, and make use of, the capacity of human actors. My dog's obvious preference for broiled tenderloin over all other forms of nourishment is a direct reaction and not a judgment, because it involves no calculation, no use of knowledge, no criteria of relevance. The dog simply reacts directly to what is placed before him. The fact that he reacts most strongly to tenderloin is indicative of his palate and a tribute to the accuracy of his nose; his cognitive capacity is irrelevant. There is no "choice" in the sense that humans express preference *after* calculation, no cost-benefit analysis. What unites the elements in the situation is the capacity of the dog's sensory apparatus and a taste for tenderloin steak. Dogs can do no better. But man can respond on grounds more convincing than personal taste; he can use his cognitive capacity, directly and indirectly, to produce reasons for choosing one thing rather than another. Empirically, men often react after the manner of dogs, perhaps too often for comfort, but dependence upon the viscera rather than reasoned judgment is much less innocent and acceptable in man than in dogs. The extreme antithesis to choice is random action—the elimination of every reason possible for selecting one alternative rather than another. In rational choice, reasoned calculation is maximized, though it remains imperfectly realized. In trivial matters, such as selecting ice cream, the absence of reasoned judgment is usually unimportant. But the individual who responds to pain by immediately killing the person who inflicts it may do a serious injustice to some member of the American Medical Association, and to the physician's family. Even if the conclusions reached

by direct reaction coincided perfectly with those reached by careful calculation, the former would remain unacceptable. In ethical affairs, as in arithmetic, the reasoning by which conclusions are reached is an integral part of the conclusions.

At the other extreme, it is pointless to demand from man capacities and skills that no man possesses. Decisions appropriate only to saints and deities are not value judgments, though they are sometimes asserted to be part of a "higher" ethic by those seeking to smuggle them into moral or social philosophy, and a surprising number of persons is prepared to claim the competence necessary to make them. Our definition of value judgment demands the exercise of the fullest capacities of a well-trained, intelligent human. But to demand extrasensory inputs, extra-human skills and powers, is to ask too much; in fact it destroys the possibility of making reasoned value judgments—the actions of men are irrelevant if the capacities of a deity are required to fulfill a purpose. In practice, adequate criticism of value judgments will probably be limited to a small minority of the total population, after the fashion of other specialized skills such as mathematics or sociology. The same differences in skill and interest that appear in other areas of human activity will doubtless appear with reference to value judgment. But that is only another reason for seeking reasoned criteria of evaluation, openly applied, rather than relying on an appeal to special competence or authority. Social criticism cannot be abandoned to self-appointed elites or to unreasoning statistical classes. Granting differences in native intelligence, motivation, and so on, it should be possible to train competent critics, given reasonable perseverance. The result will be an elite, certainly, but those who object to such conditions

are merely playing with words. Nor can the potential value of such trained elites be denigrated and scorned; we have suffered too long from the ludicrous belief that the quality of explanatory and evaluative propositions is “only a matter of opinion,” with the implication that one opinion is as good as another. That would be the case only in a society of fools or of madmen.

2. Value judgments refer to genuine empirical situations. Hypothetical or imaginary cases cannot be judged. The heart of a judgment is a real human choice. The choice may occur in present or future, or it may already have occurred in the past, but it cannot be a figment of the imagination—that philosopher’s darling has no weight in argument, and even its heuristic and illustrative value is limited. The reason is simply the lack of constraint on imagination. Every observable situation in some sense lies outside the observer’s control; the observed evidence acts as a constraint on discussion that is independent of the individuals involved in an argument. In any imaginary instance, the whole supporting structure needed to give meaning to an event would also have to be imagined; otherwise the instance would be simplistic and trivial, and no choice could be made for lack of evidence. But in imagination all things are possible; constraint is weakened or lost. Even heuristically, the hypothetical case is acceptable only so long as it is used to demonstrate a specific and carefully identified point. When both user and listener know the point being illustrated, the danger of misunderstanding is minimal, and the use of the hypothetical instance is quite safe. Of course, in those circumstances, the example would not be very useful.

3. A piecemeal approach to the development of ethics is unavoidable. No one can say what strategy is most

likely to lead to the development of ethical standards, any more than a best strategy can be plotted for developing explanations or theories. But it is certain that man cannot begin with a blank slate, hence that there is no alternative to beginning with some accepted (tentatively) set of values. Beyond that point, no good reason can be offered for either the Baconian approach to development, cumulating endless piles of data in the hope that an ethic will somehow spring full-blown from the heap, or the "grand theory" approach that demands an overall scheme applicable to every situation. The question, "What is the content of ethics?" like the question, "What is the content of physics?" cannot be answered—though it is often asked, and sometimes "answered." The only normative question that *can* be answered systematically is, "What is the set of values appropriate to this situation?" The search for universal rules of evaluation, unaffected by time or place, is as futile as the search for a universal map that can perform the functions of all possible maps for all possible map users. With respect to maps, this version of the "generalist" approach to explanation and evaluation is so patently absurd that it scarcely requires criticism, yet precisely the same error appears again and again in the social sciences and in moral philosophy under the guise of seeking universal principles of judgment. The search for "overarching" theories goes on without abatement—Talcott Parsons' structures are a classic, but not the most recent, illustration of the point. The remedy is to seek particular instruments for use in particular situations that recur often and have significant consequences. The critic must have a purpose with reference to the environment and be aware of the tools available for achieving that purpose. In the course of his criticisms, he may modify the tools or his purposes, but without them he cannot so much as begin his studies.

4. Value judgments require a specified empirical context, detailed with sufficient richness to clarify the meaning of the actions and consequences to which they refer. Human actions have no meaning outside the context in which they occur: no one can say whether or not a given reduction in resources is monstrous or moral without knowing the conditions in which it happens. Reasoned judgment, in contrast to simple condemnation, requires a definition of the situation that will allow the critic to identify the appropriate explanatory system and value system without smothering him in pointless detail. Lack of detail forces ambiguity. Excessive complications are self-defeating. It may be extremely useful to amend the definition of a situation so that judgment of condition A in situation S becomes judgment of condition ABCD in situation STUZ, using persons in class C as a base. Carried to excess, however, that procedure too can be ridiculous. Consider the ardent sport-caster, intent on impressing his listeners with the importance of the event he is describing. By suitable proliferation of the defining terms of the situation, he can literally “create” new records at every step in the game: “. . . Well, folks, we have just seen a new record set for the number of attempted bunts on second strike by a left-handed outfielder of Polish extraction born in the state of Iowa and employed for more than one year by a National League team owned by a major brewery located east of the Mississippi river. . . .” By multiplying the defining terms of a class (or situation), the number of members of the class can always be reduced to one or zero. At the other extreme, if *every* situation is a member of some single class, the defining terms of that class are not sufficiently explicated, and the class is useless. Adequate guidelines can only be developed experimentally—by working with a given class of phenomena over time. It is clear that the simple, and

simplistic, one-indicator definitions of the situation that plague the social sciences must be abandoned. How complex they need become no one can say in general terms. The question is field-relevant and not logical.

In this connection, two observations need to be made about current trends in the Western intellectual community. First, too much has been said, and too strongly, about the virtues of simplicity and the need for more and more analysis and reduction in social inquiry. As a counterbalance to the belletristic tendencies in social science, the advice has merit. But Occam's razor has too often been applied to the conceptual beard with a frightening disregard for the intellectual jugular lying below the surface. Simplicity is often, but not always, a virtue—in inquiry as in the female of the species. The danger of accepting simplistic answers to simplistic questions in the name of rigor is very great. Simplicity is desirable only if it avoids ambiguity and does not diminish the usefulness or applicability of the instrument in which it occurs. At times, the urge to analyze, to reduce and simplify, must be resisted. For if theory always butchers reality in some degree, particularly in the early stages of field development, the meat cleaver must at some point in time give way to the scalpel, and simplicity must yield to complexity, precision, detail, nuance, sophistication, exactness. Complex structures may be harder to manage than simple structures but they are more useful and they may be necessary. Occam's most excellent rule was directed against the multiplication of *needless* entities, not against the multiplication of *all* entities. Carried to excess, analytic procedures are invariably self-defeating because they lead to indeterminism. At some point, analysis must yield to application and the acquisition of more information. Otherwise, social scientists may end

by discussing very complex empirical situations using magic and rhetoric clothed in new conceptual garments but no more useful for controlling those situations than medieval metaphysics--indeed, less useful and even more misleading because they are believed to be an improvement.

A second danger point, particularly in an age where specialization is the order of the day, is the amount of importance sometimes attached to the development of a unified conceptual framework for dealing with a given class of situations. Conceptual monomania, the single-minded pursuit of conceptual paradise, whatever the specific form it takes, is occasionally lauded in unthinking or incompetent eulogies of men of meager accomplishments. The apocryphal tale of the "great" (and insane) scientist pursuing the philosopher's stone in his laboratory is a classic illustration of the attitude I am decrying. In working inquiries, such conceptual blindness is unlikely to be praiseworthy, even for an individual; in a discipline, it is likely to be catastrophic. The normative dimensions of social life are no more exhausted by a single concept or set of concepts than are its explanatory dimensions. Those who seek such "unified" approaches to inquiry follow the efficiency experts of the Taylor school, whether they seek the impact of "alienation" on society or the "memory engram" in the human mind. New or different concepts, normative and explanatory, are always possible and often desirable. Concepts of "the normative" dimensions of society differ between and within societies, and they change within and among generations. The normative critic can do no more than be aware of such distinctions and be aware of the content of the value systems that he himself employs. What is important is to keep the value structure alive and open, evolving and not stagnant, to give attention to new

concepts, to attend changes in society that create new stresses and strains for different elements of the population, to be aware of modifications in the normative potential of the society, and to try to incorporate such considerations systematically into the critical apparatus.

5. Value judgments depend on comparisons; there is no way to "evaluate X" except by comparing "X" to something else, even if it is only "not-X." More formally, a rule of choice must contain at least two variables before it can be supported by reasoned argument. Rules in the form "prefer X to all other outcomes" satisfy that requirement by implication.

6. The system-states that are compared and ordered must be real and possible and open to human control. Neither the impossible nor the unavoidable can be evaluated. Men may long for the impossible or express revulsion against the necessary but these are only reactions, not judgments.

7. The outcomes that are ordered by a value judgment must be members of the same class and the ordering must be based on the defining terms of that class. The point is a trifle complex but very important. Value judgments compare and order outcomes by referring to a standard that is external to the outcomes but not irrelevant to them. The outcomes must be expressed in terms of the same concepts, they must be members of a common class of events. The reasoning is simple: ordering requires a rule, a rule must be based on comparisons, comparisons are possible only of events that are members of a common class, comparisons are made only in terms of the defining attributes of the class. For example, an orange and an apple cannot be compared until they have been shown to be members of a common class, say "objects that have a shape." Once identified

as objects having shape, they can be compared with reference to shape—and only with reference to shape. The ethical standards applied to choices must identify the concepts used to make comparisons among outcomes, that is, identify the “normative” variable in a situation. Choice will then be based on a comparison of the values taken by those normative variables in each alternative outcome. And since most empirical situations can be classified in a wide variety of different ways, the conceptual structure used for comparisons may be quite complex. Two apples of the same variety, for example, can be compared as “apples,” and as members of the various subclasses defined by the characteristics of the particular variety. In each case, the rule of ordering must identify the sets in which comparisons can be made and stipulate rules both for scaling the individual variables in the set and for assigning priorities when there is a conflict among the variables. That is, if there are scales for measuring the size of the apples being compared, and other scales for measuring their color, still other scales will be needed for assigning priority to color or size if apples are being judged *qua* apples—with reference to all of the dimensions that are important for defining an apple. The specifications can be enormously complex, and that is the reason why comparisons of men *qua* men are likely to be trivial; it would be almost impossible to give an adequate list of the variables needed to compare men as men, let alone provide an order of priorities among those variables based on an overall conception of the desirable properties of man.

8. Finally, the set of preferences that appear in a value structure must be ordered transitively with reference to each situation in which they are applied. That is, if *A* is preferred to *B* and *B* is preferred to *C*, then *A* must be

preferred to *C* in that series. Transitivity can be achieved only within the confines of a given set or series and with reference to the members of a single class of events. Value standards that order the variables in a given situation (if *A*, *B*, and *C*, choose *X*, for example) must identify the situation precisely enough to maintain the transitive ordering when the standard is applied. In effect, ordering a series by rule creates logical coherence or consistency. Indeed, the creation of transitive relations among the members of a set is what is *meant by* ordering, and the absence of transitivity in a series is a certain indication of the absence of order—the aggregate is not a set. A set that is not transitively ordered is a random aggregate and without order (order is the elimination of randomness). Common usage is confusing in this context because it is usual to speak of “random choice” when in fact to act randomly is to act *without* a rule, hence there can be no “choice.”

Since the composition of any set of variables with empirical relevance is an empirical and not a logical question, two different series may contain “the same” members, ordered quite differently in each case, without contradiction. That is, *A* may precede *B* in series *X* but follow *B* in series *Y* without contradiction because contradiction can be established only *within* a single series or set. The reason is that order depends on a comparison of the different units in a series in terms of the defining attributes or characteristics of that series. The appearance of “sameness” is misleading, an illusion created by common usage. Any complex unit, such as a man or an apple, will have endless properties and can be a member of a vast number of series, occupying a different rank in each of them. The defining properties of a single series cannot exhaust the properties of the complex units that make up the class membership.

When there are two series, one defined by weight and the other by height, “the same man” does not appear in each of them, though individual persons may be classed in each of the three ways. The “whole man” does not appear in any known series whose terms can be defined. When this characteristic of series and classifications is ignored, the result is seeming paradox and serious conceptual confusion.

SUMMATION

Some of the major implications of construing value judgment as a choice from among alternative sets of consequences for human beings of human actions in the environment have been explored briefly. We can now turn to the structures and processes needed to make such choices, beginning with the descriptions and explanations of the environment to which value judgments apply. The reader is asked to bear in mind that the goal is a clear conception of the best judgment possible in a given situation, realizing that the content of the judgment may vary with time, culture, knowledge, resources, and so on. The reason for the methodological and analytic focus of the discussion is the assumption that the structures and procedures needed for choice are invariant, whatever the content of the choice. Clarification of the methodological underpinnings of value judgment is an essential first step in the critical process. It should be followed by an attempt to develop and apply particular value standards and principles to concrete situation. The best phrase for describing the approach to value judgment advocated here would be “social engineering,” if that phrase were not so badly contaminated in history. Without some desire to alter the environment, to avoid or to recreate situations that have occurred in the past, with-

out some human purpose that intellectual tools can serve, cumulation of knowledge cannot occur. A piecemeal and gradual evolution of ethical principles, based on deliberate and reasoned intervention in the environment seeking the attainment of human goals, is enjoined. The approach to value judgment must be empirical, experimental, and rational or calculative, *if we are to control it and improve its quality*. In these terms, society becomes a normative enterprise and not a prize ring with a referee blessed with selective vision. Science, whether physical or social, becomes the servant of values. Government, whatever its form or structure, becomes a potential normative instrument.

CHAPTER THREE

THE FACTUAL BASE

A value judgment requires a reasoned choice from among the alternative sets of outcomes that can be achieved by an identifiable actor in a specified empirical situation. Taken as a whole, the process of reasoned choice is complex, involving a sequence of assumptions and calculations in which errors of fact or reasoning can cumulate. The quality of the value judgment is no better than the weakest link in the chain of reasoning on which it depends. It follows that the defensibility of a value judgment (and reasoned criticism of value judgments) depends on the adequacy of the evidence employed and the accuracy of the chain of reasoning by which the choice is made. The quality of a choice cannot be judged by its intrinsic properties, its author, or its pedigree. Even in simple cases, reasoned choice or reasoned criticism of choice is likely to be prolonged and difficult. Happily, once an evaluation is well established for a given situation, it can be used whenever that situation recurs, so long as the same standards are accepted. That is the basis for normative cumulation and improvement.

It is useful and convenient to divide value judgments into two elements that correspond roughly to the everyday distinction between "facts" and "values." The factual component of judgment includes all of the structures, processes, and observations needed to specify the set of outcomes from which human choice is made; analytically, it consists of descriptions, explanations, and perhaps forecasts. The strictly normative component of value judgment comprises the standards or principles used to judge outcomes and the calculations needed to apply those standards to a specific situation. The "factual" dimensions of value judgment are dealt with in Chapters Three and Four. Here, I have tried to sketch the procedures by which the quality of the descriptions and explanations used in evaluation can be judged and to identify the kind of structuring of an empirical situation that is needed to locate the elements of the situation relevant to reasoned choice. Chapter Five deals with the more narrowly "normative" problems related to creating, applying, and justifying the standards used to make value judgments.

FACTS AND VALUES

Value judgments are absolutely contingent upon descriptions and explanations. Until a situation has been described accurately, and the consequences of the choices open to an actor in that situation have been projected on the future by an adequate explanation, no choice can be made. Every choice implies a description and an explanation of the empirical world. When descriptions are ambiguous, inaccurate, or inadequate, or explanations are weak and unreliable, the resulting value judgment may be worse than worthless because it involves the cumulation of a number

of errors in a single locus. Without adequate descriptions and explanations, the actor in the situation is forced to choose among unknowns—a contradiction in terms. When alternatives are not known, man acts at random, and self-delusion with respect to alternatives (assuming without basis) merely obscures the randomness. No one can *choose* a household pet from among five “living” creatures. There is not enough information. For to “choose,” would mean to compare each of the live animals to some model or ideal of a household pet, and “living” is not an adequate specification of the variables. A pseudo choice can be made by making unwarranted assumptions, for example, that there is no animal in the set that is not clean, safe, healthy, and so on. But parking a live and hungry tiger in the kitchen in the belief that it is a suitable household pet would produce genuine and unintended surprises for the child sent to the kitchen to meet its new playmate. Meaningful choice requires enough knowledge of the properties of the class from which a choice is made to compare with the set of variables that defines the purposes the choice is expected to fulfill. Choice implies that purposes can be fulfilled differentially by selecting from members of a set with common attributes, differently distributed within the set. A calculation of the degree of fit between individual members of the set and preferred standards produces and justifies choice. The standards are important, as are the purposes, but the need for calculation must also be satisfied, since without calculation purpose or standard cannot be achieved except accidentally.

A value judgment, then, requires an organization of human perceptions of the environment that enables an actor (or critic) to identify those parts and features of a situation that have normative significance within a specified ethical

structure and to project the changes that can be introduced into that situation by the action of specified actors. Considered as a tool or instrument, value judgments function only with the assistance of descriptions and explanations. In fact, the relation between the factual and evaluative parts of a value judgment is so close that argument over values is not possible until a descriptive and explanatory base have been agreed. That is, two individuals may *differ* about a particular choice in a given situation, but they cannot *disagree* about that choice until agreement has been reached on the content of the situation and on the consequences projected for different possible choices in that situation.

A description is a set of variables whose values have been established by observation; an explanation is a set of variables, related by rule, with empirical relevance. Each explanatory system can take a number of different *states* in which the values of the variables in the system are fixed—or stable within limits. Not every value of every variable in an empirically relevant system is a genuine possibility, and such empirical limits can be incorporated into the explanation. But every explanatory system must have at least two possible states; otherwise, it could not explain changes in the values of its variables and would have no empirical usefulness. Normative judgments refer to these system-states; in fact, a value judgment is a choice of or expression of preference for a complete system-state. The reason why the whole system-state must be chosen lies in the linkage between the variables in the explanatory system; to choose one value for one variable is to choose values for the other variables in the set. Value choices therefore refer to complete system-states and not to any particular variable in the set. The system-state includes the “cost” of making a value

choice as well as its “benefits” in the sense that choosing a system-state in which a significant variable takes a desired value also requires the choice of specified values for the other variables linked to the significant variable in the empirical environment.

Value judgments always refer to future system-states, since the past cannot be chosen; therefore, they are always contingent upon and antecedent to explanations. Exploration of past history cannot produce choice, although retrospection about the past consequences of particular choices in a given situation is an important part of testing and justifying value standards. But the act of making a value judgment requires a human actor to stand in the here and now and choose with respect to the future, limiting his choices to those system-states that human intervention can produce in the environment. Since each choice must comprise a complete system-state, choices can only be made within the limits of a single explanatory system. That is, comparisons cannot be made among system-states taken from discrete and unrelated explanatory systems; they must first be brought into a single coherent structure. Here we find the justification for defining value judgment in terms of consequences. If every human action, every choice, regardless of the identification of the actor, the location of the action, or the motivation of the persons concerned, requires a description, an explanation, and a choice from among future possibilities, then no human action is possible without, implicitly or explicitly, making a value judgment as the term is used here.

Some explanations are worthless. Others are demonstrably useful within specified limits in known situations. Some are very powerful and reliable in a wide range of situations. All explanations are problematic. Judgments,

which depend absolutely on explanations, are also problematic and should be applied tentatively and not dogmatically. The actor or critic can seek to improve the quality of the empirical base, or at least be aware of its limitations. He can also try to improve the reasons he gives for accepting a particular normative standard. He cannot eliminate uncertainty in either area and talk of "decision making under uncertainty conditions" is mere redundancy—there is no other kind of decision. The amount of uncertainty (risk) is significant, obviously. Strong explanations are preferable to weak explanations, but in the absence of strong explanations, as in social science, it may be just as important to know the quality of the explanatory tools as to have powerful tools, particularly in those cases where judgments may have a massive and irrevocable impact on large numbers of persons.

Clearly, the limits of man's capacity for explanation are a significant constraint on his ability to act or choose rationally, and the relative lack of explanatory capacity in the social sciences has some interesting implications for the prospective social and political critic or actor. In many areas of enormous importance for mankind, there are no explanations worthy of the name that can be used as a basis for evaluation, yet in those same areas, choices *must* be made by those involved in the day-to-day flow of affairs. In fact, such choices *are* made, and they always involve some kind of "explanation." But those "explanations" tend to be concatenations of old wives' tales and folklore rather than systematic explanations of known reliability, and the principles of judgment seem little more than an effort to avoid catastrophe and repeat successes—as defined by recent social experience. In some cases, a great deal of useful knowledge can be found in custom and

adage, though the odds, as Damon Runyon once asserted, seem always six-to-five against. Under the circumstances, the approach to value judgment advocated here may be dismissed as a counsel of perfectionism, wholly inappropriate to the context in which the activity occurs. Indeed, it is sometimes argued that a special or different approach to value judgment is needed *because* the explanations available in social science cannot withstand rigorous criticism on methodological or substantive grounds. That criticism might be relevant and convincing *if* men could either refuse to act, or act at will, without destroying themselves. But in fact man is forced to act, and some of his forced actions can have devastating consequences. And each such action implies an explanation of some quality that can be identified and criticized and improved. That being the case, systematic criticism of the explanatory and descriptive underpinning is unavoidable. Even if the explanation proves worthless and no alternative explanation can be provided, the criticism is useful so long as the actor is forced to make a choice. For it is one thing to proceed in ignorance or with complacency and quite another matter to proceed with some awareness of ignorance and risk. The man who steps out on the ice covering a deserted lake walks differently both in manner and in direction, depending on whether he is sure that the ice will carry his weight or is uncertain on that point. Poor judgment of evidence could, in such cases, be fatal. Whether or not a better explanation is available is irrelevant. At the very least, there may be differences in the kinds of risks that will be undertaken using explanations of varying quality, or in the contingencies that will be attached to actions that are forced.

Of course, awareness of the limitations of the available explanations should not become an excuse for despair and

quietism. In social science, explanation and evaluation are likely to remain faulty and imperfect and unreliable for a very long time. Given the complexity of man's social needs and the weakness of the tools that the social sciences can provide, the best that can be achieved in the short run may be no more than an improvement in the way man deals with a few basic situations, each somewhat simplistically defined. Our capacity to handle large numbers of variables has been much expanded by the use of computers, but our ability to weight those variables on reasoned grounds is still limited. To obtain some measure of control over empirical conditions, the number of elements actually employed in judgment may have to be bounded sharply, and variables known to be relevant to certain outcomes may be omitted deliberately in the hope of creating instruments that are better than random choice for use in situations where action cannot be avoided. The strategy often fails. Indeed, one major dilemma in policy-oriented inquiry is knowing when to be satisfied with the results, when to cease research and begin production, when the marginal utility of further precision is too small or the cost of further delay too great. The capacity of the inquirer is not a good indicator because the best that can be done may not be good enough. No one jumps willingly from an airplane wearing the "best available" parachute without some assurance that it is good enough to return him to ground. The man who *must* jump will take it and hope.

Inquiry, then, whether normative or explanatory, is bounded pragmatically by purpose and accomplishment. A purpose is taken to the environment, and an instrument is fashioned that will achieve the purpose, however imperfectly. The instrument is adequate when purpose can be achieved within "tolerable" limits, defined in terms of

current needs. Purposes are changed, and instruments are modified and replaced on pragmatic grounds. Pragmatism in effect, provides a way of avoiding or circumventing indeterminacy and the infinite regression without losing control over the empirical situation. So long as it does not lead to immobilization or despair, this approach to inquiry and evaluation is functional. Man can survive, and in fact improve his control over the environment and the quality of his moral climate, by avoiding the polar insanities of believing that everything is trivial and nothing can be preferred to anything else, or that everything is important and nothing can be ignored. Evaluation patterns, however simple, can be constructed and applied. The results obtained from their use can in turn be used to modify them. Value judgments can develop as explanations develop, out of the interaction of thought or calculation and experimental trials in the environment. The purposes embodied in value systems, the postulates on which they rest, will have to be agreed but there is no reason to suppose that agreement is in principle beyond reach and the rudiments of an agreed base may already be available in the mores and in folklore. At the very least, the points of genuine normative difference can be identified unambiguously, allowing the arguments based on them to intersect.

Furthermore, the descriptive and explanatory structure needed for value judgment is somewhat less demanding than might be expected. Consideration of the "normative" dimensions of any empirical situation will always be constrained by the amount of time, resources, knowledge, and so on, available for dealing with the situation. Man lives in a world of limited resources and limited possibilities; such limits make value judgment necessary. It is impossible both in practice and in principle to examine every aspect of

every situation or to seek to determine every possible consequence of every possible choice. There must be a selection of variables, an order of priorities. Such limits restrain the actor as well as the critic, and they much facilitate criticism. The human actor always begins with a set of "normative" variables; otherwise there would be nothing in the environment that would attract his attention on normative grounds. The critic begins from the same point. The normative variables are a partial and limited set, and no more is needed. It is pointless to ask for a complete and perfect explanation of any situation, to ask "What will follow from doing *X* in situation *S*?" The answer could not be given and is not needed. Instead, we ask the more limited question: "Are variables *A*, *B*, or *C* (the normative variables in the ethic) changed in value by action *X* in situation *S*?" There is then no need to trace every possible connection between situation variables and other variables. And experience can, over time, help to separate the crucial indicators from those that are inadequate or misleading. For example, if none of the studies made of the problems facing government in large urban areas produces adequate anticipations of subsequent large-scale rioting, the sets of variables used in those studies are manifestly inadequate and in need of modification. So long as there are procedures of inquiry that will force attention to such discrepancies and an orientation to testing that will lead to modifications in the value standards applied to those situations, the quality of the ethic can, in principle at least, be improved.

All of which serves to underline still further the evolutionary character of man's intellectual development, normative or explanatory. If, as Descartes suggested, man started with a blank slate, it might take millenia to place a

single mark on it. Without some foundation, however faulty, man can construct nothing, whether intellectually or materially. To inquire into the adequacy of an ethic, man must have an ethic. What is encouraging is the extent to which criticism of value judgments is possible, using fairly simple and unimpressive-sounding procedures. A rule is accepted for making a particular choice in a particular situation; the reasons for accepting it can, for the moment, be ignored. The results of applying that rule to that situation must be compared to the results that were anticipated when the rule was accepted. So long as the structure is kept open to change, modifiable by experience, its quality can be improved. A scoring system for value judgments is not enough; man needs an editing device, a way of questioning the rules of scoring. And we know with certainty that man can produce editing structures. The accepted norms in present-day America, however faulty, are an enormous improvement over the norms of sixteenth-century France, or Germany, or anywhere else. We need to ask how such improvements were brought about, and, of course, how we can decide that they were improvements. The task is by no means hopeless.

DESCRIPTION

Since adequate criticism of descriptions and explanations is an essential part of value judgment, the salient characteristics of these two instruments will be examined in some detail in the remainder of this chapter. The aim is to indicate the basic structure of each instrument, the points at which criticism is usually needed, and the kinds of criticisms that are most often relevant. The account is much condensed and somewhat simplified; in no sense is it intended

as a substitute for an adequate introduction to the methodology of social science. The reader who is not familiar with recent developments in that field is most strongly urged to consult an appropriate source. For if value judgment requires some capacity to criticize the factual basis of choice, that capacity is an essential part of the social critic's equipment. Whether a choice is being made or criticized, the critic must be able to judge the quality of the descriptions and explanations involved on grounds that are tenable according to the best standards of the time.

A description is a record of observations, an imposition of a set of rules of selection on the stream of raw perceptions that flows into the sensory apparatus of man from the environment. Order is not found in nature or perceived in the external world; order is imposed by man. Any set of perceptions can in principle be patterned in an infinite number of different ways. There is no "prime" description, and the adequacy of a description depends on the purposes of the observer. One major purpose of academic training is to familiarize the student with the conceptual apparatus currently accepted for dealing with the phenomena considered part of the field of inquiry being studied. What identifies a man as a botanist or political scientist is the conceptual framework, the set of concepts and rules of ordering, brought to his observations of the environment. Skill in observation can be improved by training, and the quality of observations can be augmented by the use of scientific instruments or measuring tools. But the quality of the concepts used in observations remains decisive; no improvement of skill in measuring can eliminate the handicaps imposed by faulty concepts and indicators. The chief importance of the quality of the measurements used in descriptions lies in the kinds of calculations and comparisons

that can be performed with the results. For example, if size is measured in inches on an interval scale the results are usually much more useful than a measurement scaled ordinally (A is greater than B). Knowing that one sphere is six inches in diameter and another half that size, a great deal can be said about the relations that hold between them; knowing only that one is larger than the other much reduces the amount of justifiable inference that can be drawn from the available information. Further, when measurements can be made on a scale that is applicable to other events or entities, comparisons can be extended to those entities, though only in terms of the specific properties measured by the scale.

The adequacy of an observation depends on the purposes of the observer; the quality of an observation depends on the concepts used while making it, the precision of the measurements, and the reliability of the results—essentially, on the extent to which observations are open to the agreement of an independent observer. Pressed to extremes, every observation is a subjective process; there is no way to be certain that two persons have made the same observation (had the same set of perceptions) even though they agree perfectly on the results. The impasse can be hedged, though not avoided, by relying on observations open to public confirmation, using rules of observation that minimize the interpretive or subjective element in description and measurement. For example, measurements of size and shape leave far less room for a difference of opinion than observations of the degree of introversion of two students. In the first case, the indicators of the concepts are precise, the rules of measurement well established. The inferential gap between perception and description is small. In the case of introversion, there is much more

looseness and ambiguity in the concept and the measurements that relate to it. Inferential gaps between perception and description cannot be eliminated, and in social science too rigorous a set of criteria might be self-defeating. Concepts that are loosely linked to indicators may be more useful, if more treacherous, than concepts that are very tightly defined and precisely measurable. Social science will probably have to accept a substantial amount of subjective observation and introspection in the foreseeable future (participant accounts of events, for example). The quality of the descriptions used in social science is likely to range much more widely than the quality of descriptions in physical science, even in fairly well-developed fields such as economics. But in any discipline, descriptions that use very precise concepts and rigorous measurements are highly desirable, and the assertion that "hard" data are usually trivial is only "sour grapes" in most cases. Although social science *cannot* insist on observational criteria equal to those employed in physics, that does not mean that the persuasiveness of argument in social science is independent of the quality of the data. Other things equal, an argument that depends entirely on introspection is far less compelling than an argument that uses public, testable data. And the significance of data is not an intrinsic question but a matter of use and application. Those who decry what has been accomplished by the use of "hard" data, and predict that the future will be no better, usually fail to point out that those who rely on introspection and other "soft" data have not been notably more successful in developing useful knowledge, despite two millennia of advance notice.

Structurally, it is convenient to think of a description as a set of concepts or variables whose values are determined by observation. Two types of variables are needed, ignoring

the concepts required to create a working language: classifications and relational propositions. A classification is a rule for including or excluding perceptions in a particular descriptive account; classifications group perceptions or link them together to form "entities." For example, the concept "daisy" will appear in a description if a particular set of perceptions are had by the observer in a situation; the concept can be used whenever the perceptions appear, if it suits the observer's purposes. Note that "daisy" is already a complex structure, an amalgam of shape, color, size, and so on, and that the values of the variables may differ without abandoning the concept—daisies may be large or small, more or less colorful, and so on. Most of the concepts in use are complexes of this kind and not "simples" such as color. Relational concepts, as the name suggests, compare or relate two or more classifications, for example *A* is larger than *B*, or *X* is further than *Y*. Any description can be reduced to sets of classifying and relating concepts, plus the concepts needed to create a suitable language.

The variables in a description are not related logically. Both the composition of the set of variables used in a description, and the values taken by each variable, are determined partly by the purposes of the observer and partly by the actual perceptions of the situation which the observer experiences. Descriptions, as we noted earlier, are static and particular; they contain no dynamics, no statements about change, no general terms. Yet it is a serious error to treat a description as no more than a photograph record of "the facts." There is always some looseness of fit between concepts and the indicators used to identify them. Moreover, every empirical situation can in principle be structured in an infinite number of different ways. There can be no prime description of any situation. Primacy

depends on the purpose, or normative structure, of the observer and not on any objective properties of the situation.

The looseness of fit between concept and indicator can be a source of difficulty or a virtue, depending upon the state of the discipline. If the gap is very small, description is cumbersome and tedious, as in some areas of physical science. Looseness adds organizing power at some cost in precision. For the social sciences, Aristotle provides the best guideline for dealing with concepts and indicators—avoid extremes. Descriptions that use concepts very closely and precisely related to perceptions may be stultifying, particularly in the early stages of development of a field. A loosely fitted concept is a way of probing the environment with a large net to see if there are any big fish about. If the gap is too large, nothing is learned by using it. If the gap is too small, it must be cleaned too often and the acquisition of big fish may be delayed. If a concept cannot be applied to a given situation by trained observers without dispute, it has no value; so long as ambiguity is avoided, looseness can be a virtue. Thus the indicators of “alienation” may be data relating to absenteeism in a factory or responses to a questionnaire while the meaning of the concept may relate to subjective feelings of helplessness or dissociation from the society. The concept is much richer and more suggestive than its indicators, certainly, and potentially more useful as a tool for inquiry. But if competent observers can disagree about the applicability of the concept, for example, if Smith can state that X *is* alienated while Jones asserts, on the same evidence, that X *is not* alienated, then the concept is not sufficiently well defined with reference to its indicators. A related but different problem arises if Smith and Jones agree that X is alienated but disagree violently on the expectations that are appropriate for the future, given the alienation of X.

As the looseness of fit between indicator and concept increases, concepts take on the qualities of explanations—indeed, it is impossible to differentiate between them. In a sense, a description *is* an explanation with reference to the raw perceptions coming from the environment, since the imposition of order on sets of changing perceptions is no different from the imposition of order on changing sets of descriptions. At the borderline between description and explanation, the quality of descriptions is most difficult and tendentious—as might be expected. Narrow, precise descriptions are easy to recognize, and they leave little room for disagreement without contradiction. The gap between indicator and concept is small, the indicators are very precise; the definition of the concept is rich, quantification and measurement, perhaps by careful instrumentation, is common; the inferential gap between concept and indicator is filled by rigorous calculation. There is little room for a difference of opinion about the elements in the description. Similarly, a blatantly inadequate description is easy to spot, though in areas where standards of criticism are lacking, there are sometimes horrendous arguments over the facts of the case. Neither extreme is optimal for social science, particularly in the long run. Excessive severity in standards *could* throttle imagination, and in the short run a good case can be made for the free use of loose and ambiguous concepts, if only for purposes of exploration. In the long run, usage must be standardized and the meaning of concepts defined adequately in terms of indicators. Otherwise, mountains of inference can be sustained on the head of a badly anchored pin. It may be wise to take a promissory note in the hope of obtaining useful results, particularly in areas of great significance for man, but the redemption date of the note cannot be extended into the indefinite future without undermining the credibility

of the creditor or creating a priesthood of those able to “understand” the proper use of the concept. Such developments do not occur in the field of religion alone. The capacity of psychoanalysis, particularly the various Freudian derivatives, to survive in the twentieth century should be cause for amazement to anyone who has examined its concepts closely, or even read some of Freud’s “descriptions” of his patients.

EXPLANATION

An explanation focuses on the record of change found in descriptive accounts of the environment, seeking a reason for changes—asking how and why changes occur. Questions in the form “Why did this change occur?” “How can this situation be changed?” or “What would follow if this element of the environment were changed?” are all requests for an explanation. The event to be explained, the phenomenon, is always some change that occurs in the environment or some modification of the environment that is either contemplated or desired—some change in the value of one or more of the variables in the environment. An explanation will show how or why such changes occur, suggest ways in which they can be inhibited or brought about, or project the consequences of introducing specified changes into a situation. In each case, those purposes are fulfilled by linking the change to be explained to other changes in the environment according to rule. There must be at least two changes; if only one change occurs, there can be no nonmagical explanation. An event is explained, in these terms, by showing that it is to be expected, given (1) another observed change in the environment and (2) a specified rule linking the two changes. The assumption

behind an explanation is that the variables comprised within the explanatory system are so linked that changing the value of one will change the others. The prime evidence for the explanation, obviously, is the consequences observed when such changes are actually made. If there is no covariation, the device may predict but cannot explain and therefore cannot be used for intervention.

In everyday language, an explanation is a device that selects a set of variables in the environment which are linked to one another much more strongly than they are linked to the remainder of the environment. The connections between the set of variables and the rest of the environment is then disregarded, and it is assumed that changes in their value can be accounted for completely by changes within the set, given certain rules of interaction. If *A* and *B* are so related that the value of *A* increases as the value of *B* decreases, then a change in the value of *A* can be explained by reference to an observed change in the value of *B* and to the rule of interaction. The selection of variables is assumed to constitute a closed logical system, a loaded calculus, even though the assumption is known to be false. A change in the value of one variable in the system is explained by showing that it is to be expected, given the rules of the system and the observation of another change. That is all that the term *explanation* means. Simple as it may sound, it is the most powerful procedure for dealing with the environment that man has developed.

In the empirical world, it is not possible to isolate a set of variables so completely that there is no external influence upon them, even in ideal laboratory conditions. Always there is *some* interaction, however slight, with the environment. At the very least, there will be measurement

errors to mar the perfection of the fit between system and observation. And as precision of measurement increases, or purpose becomes more complex and sophisticated, every explanation ultimately breaks down because of external interference. But for working purposes, a *ceteris paribus* clause can be added to the loaded system, lumping together all of the external influences on the set of variables, thus enabling us to calculate system reliability in terms of the influence of *all* external factors without specifying them in detail. If the system is not sufficiently reliable for the inquirer's purposes, some of the factors included in the *ceteris paribus* (*c.p.*) will have to be identified and their relations to the rest of the set specified by an appropriate set of rules. The *c.p.* clause performs much the same function in explanation that the royal prerogative performs for British government and has much the same usefulness—increased flexibility and a reduced need to specify detailed particulars in advance of use. Since no explanation can be perfect, there will always be a *c.p.* clause and some external influence on the loaded system. Whether the amount of that influence is tolerable depends on the purposes for which the explanation is needed. An explanation of genetic change that will suffice for cattle breeding, for example, may be grossly inadequate for research in antibiotics. Of course, explanatory capacity must be separated from technological competence. All of the theoretical competence needed to send a rocket to the moon may be available long before metallurgy has supplied the material needed to construct the rocket or chemistry has provided fuel to power it.

The importance of the *c.p.* clause is well demonstrated in a simple two-variable explanation. Suppose that *A* varies inversely with *B* and that this system is applied to a

situation in which *A* is community goodwill and *B* is the price level of goods made by the company. An increase in prices, if the explanation holds, should lead to a decrease in community goodwill. The need for the *c.p.* clause is obvious, as is the range of factors that can influence community goodwill toward a company. One can readily imagine conditions in which goodwill increases as prices soar, or goodwill fades as prices decline. In fact, two-variable explanations are almost necessarily vague and ambiguous, though public relations men sometimes convince boards of directors that they are operative, even to the point of using them as a justification for substantial increases in salary. For serious social science, the structures required are usually more complex.

If "explaining" means no more than relating one change to others, students sometimes feel cheated because they cannot answer the question, "Whence the initial change?" The simple answer is that it doesn't matter so long as the explanation serves its purpose. A more complex answer is that there is no "initial" change, only an arbitrary point of departure in an endless set of branches without terminals. If an increase in wealth can be linked to an increasingly conservative outlook in politics, and we are interested in the kind of outlook that is likely to follow when men grow rich, then the explanation will serve. If, however, we are concerned to know how great wealth has been acquired, perhaps for purposes of emulation, then that explanation is useless and a new point of focus must be chosen. The inquirer must go back in time and ask what factors changed earlier that would explain the increase in wealth. At the other end of the process, the effect of increased conservatism on political contributions, also interesting in some contexts, could be studied only if the focus were changed

to another point on the network. The analog is to an unlimited spider's web. We can focus on the structure narrowly or widely, change the resolving power of the lens to add or eliminate detail, or change the location of the focus. But the web has no beginning and no end; indeterminism appears at the outer edges of the structure and within the interstices. By approaching the web with a purpose in mind, the indeterminism is avoided: purpose serves to determine the adequacy of the instrument, the focus, and the locus of interest of the inquiry.

It is, of course, much easier to account for an event than to produce a valid or acceptable explanation. That is, a system can be created that will fit any situation but it may not serve as a useful tool for altering the situation. For example, a system may be created that will link the amount of traffic on the streets of Boston and the temperature in the city of Chicago but we are unlikely to act on it—to try to control the temperature in Chicago by altering the traffic in Boston. The reasons have to do with the results that could be expected if the explanation were tested (acted upon) and that in turn depends upon sets of corollary or related explanations, well established, that render the explanation unlikely. Even at best, explanations are tentative and uncertain in some degree. Their quality can be improved by sharpening the selection of variables, specifying the rules of interaction with increasing precision, and by “burying” the explanation in increasingly wider contexts without contradiction. The process by which explanations are tested and evaluated, the reasons why explanations come to be accepted in a field, cannot be formalized. Within an academic discipline, one of the major functions of academic training, in theory at least, is to learn the various kinds of explanations employed in the field, the

reliability attached to them, and the conditions under which they are useful. So long as the inquirer's purposes lie within these limits, he can work with some confidence. When new explanations or more precise explanations are needed, the inquirer undertakes a task whose precise solution depends on the specific experiences of the observer in the situation. There is no simple rule for verification of theories or explanations.

An Illustration

An illustration will demonstrate some of the problems involved in the development and application of explanations. Suppose that a previously healthy man suddenly developed the following rather alarming symptoms:

- a) A high fever.
- b) Severe abdominal pains.
- c) Frequent vomiting.

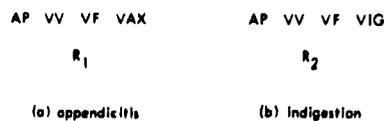
Three important attributes of a single person have suddenly changed values. How are these changes to be explained? Clearly, one symptom does not explain two others; an explanation requires the introduction of some additional variable or set of variables that can account for the three changes. For simplicity's sake, assume that all three changes can be related to a common source. An explanation will therefore show that the three changes are to be expected, given a fourth change in the environment and a particular set of relations. It is assumed that an explanation is already available and does not have to be created, though the considerations are quite similar in both cases.

Obviously, there will be a body of generally available knowledge that defines or limits the kinds of explanations

that are considered for the observed changes. An American is likely to call a physician, or go to the local drugstore and demand medicine (which presumes an explanation unless it is a placebo). In some parts of Central America, family remedies would be employed, or a witch doctor consulted. Anyone who accepted the view that evil spirits can cause physical disorder in man might consider malevolence on the part of some resident of the spirit world a suitable explanation—and act upon it. This is the sense in which the general level of knowledge and rationality in a culture plays an important part in molding the thought patterns of its members, but the concept is tricky because a single “national” culture will contain intellectual structures of such grossly disparate quality that “national culture” is probably worthless as a unit of analysis. Since our concern is with the evaluation of explanations, we can limit ourselves to the alternatives that would be acceptable to a Western-trained physician.

One acceptable explanation presumes that the man has a severe case of indigestion, that his intestinal blockage variable (*IB*) has changed in value from negative to positive. In a system containing (1) intestinal blockage, (2) abdominal pain, (3) fever, and (4) vomiting, and (5) a rule that a positive value for intestinal blockage leads to positive values for abdominal pain, fever, and vomiting, the symptoms are explained by assuming indigestion. The formal explanatory structure is shown in Figure 3-1 (b). A second acceptable explanation [Figure 3-1 (a)] connects abdominal

FIGURE 3-1



pain, fever, and vomiting to an infection of the appendix—to appendicitis. Each explanation will account for the same set of changes. The example is peculiar because the “causal” change is unknown and the search for an explanation is diagnostic, a preliminary to reasoned treatment of the symptoms. If the correct explanation or diagnosis can be determined, then the correct intervention strategy is known—a laxative for indigestion, removal of the appendix for appendicitis.

Ordinarily, it might be possible to choose one of the two explanations, act upon it, and observe the results. But in the present case, the consequences of error are serious, and random choice is not a wise policy. That is, administering a laxative to a man with indigestion will cure the trouble, but if the man has appendicitis, it could lead to rupture of the appendix, peritonitis, and even death. The strategy suggested by the alternative explanation (removal of the appendix) is usually not fatal, but it is expensive and inconvenient and does not help indigestion—and the American Medical Association takes a dim view of appendectomies that do not lead to the removal of a diseased organ. The data needed for decision simply are not available in the description. As Figure 3-1 shows very clearly, if AP , VV , and VF take value p (positive), then *either* VAX or VIG could take value p . On the evidence, the poor man could have *both* indigestion and appendicitis.

The dilemma posed above is a classic problem in the application of explanations to situations. The explanation can account for the phenomena, but the phenomena do not establish the explanation. There simply are not enough check points for an unambiguous definition of the situation with respect to the two explanations. The empirical situation presumably contains a great deal more information, but the explanations do not refer to enough of that

information, as stated, to allow a reasoned choice. The dilemma is resolved, obviously, by increasing the complexity of the indicators used to identify the situation as “a case of appendicitis” or “a case of indigestion,” that is, to fix the correct explanation for the event. A skilled physician looks for additional variables (symptoms) that are associated with one of the two illnesses and not the other. By increasing the complexity of the definition of the situation first, the problem might be obscured and muddled rather than clarified—the wrong information might be selected. The physician begins with the explanation and then looks to the environment for a fit. Ultimately, he may find a way of separating the two explanations and choosing among them. Note that his confidence in the diagnosis is not a simple matter of counting the number of points of correspondence between explanation and situation. One point of correspondence may be decisive, while a dozen others leave the physician still undecided. Even in ideal conditions, medical diagnosis is not absolutely certain, but the training provided by the guild includes information about the amount and kind of evidence currently accepted as an adequate justification for making a choice in a particular situation (will hold up in courts?), and the physician will usually go by those standards.

A more interesting aspect of the explanatory process is revealed if we assume that our physician lives in an era that knows nothing of appendicitis. His problem is then much simpler, and much more complex. Given the symptoms and a knowledge of indigestion but no information about appendicitis, the doctor can only assume that the patient has indigestion and administer a laxative. If the patient does have indigestion, the laxative will presumably function and the symptoms will disappear. But if the patient has a

serious case of appendicitis, the laxative may well lead to the disappearance of the patient from the face of the earth. What does the physician do at that point? Change to another laxative? Sue the manufacturer? Write off the patient as an unfortunate but unavoidable loss? Or take the death as an alarm signal, an indication of the need to check the adequacy of the diagnosis? How very difficult it would be for the physician to question his own diagnosis is fairly obvious. Yet he, and every other inquirer or engineer, must somehow be trained to regard knowledge as sufficiently problematic to treat each application of accepted explanations as a learning opportunity. Somehow, sensitivity to error in application must be incorporated into the techniques and methods used to generate and apply explanations. While it is not possible to formalize the conditions that will lead to learning, it should be possible to identify the habits of thought that are essential prerequisites to learning—that is what seems to have occurred in the highly developed sciences. Once identified, it would be useful to incorporate those habits of thinking into the training procedures used to transfer the tools of the trade to prospective inquirers. And at an absolute minimum, a commitment to application or use seems a justifiable requirement.

Such special cases aside, explanations are open to criticism on various grounds and at various places in their structure. The concepts and indicators which they incorporate can be criticized in the same way as any other set of concepts—ambiguity, testability, precision, power to relate diverse elements in the environment, and so on. The degree of isomorphism between the loaded explanatory system and the empirical situation is open to discussion, primarily on field-relevant or substantive rather than logical or methodological grounds. There are some mathematical

techniques for testing degree of fit between a formal structure and a body of data, but as yet they have not been widely employed in social science. At other levels, the internal consistence of an explanation is open to inspection, as is correspondence with other well-established explanations. The evidence for and against a particular explanation can be marshaled from history, experiment, and practice and examined for relevant implications. The explanation must be testable in principle: *some* body of data or evidence, *some* set of outcomes, must in principle be sufficient to demonstrate the inadequacy (not the adequacy) of the explanation. An explanation that can fit every situation and that cannot be challenged by any evidence is worthless. When everything that can be done has been done, uncertainty will remain. No experiment is conclusive, no test is final, no body of evidence can establish an explanation for all time. As knowledge expands, new reasons for accepting—or rejecting—an explanation may at any time appear, and they must be honored. Even in the physical sciences, the status of a theory may remain uncertain for decades, waxing and waning as evidence mounts in one direction or another.

Probably the most important single aid to establishing an explanation is the availability of other explanations in the field that can be used as a point of departure. In explanation, as in so many other things, weakness breeds weakness, and the field that has available a supply of powerful explanations can test and establish proposed explanations much more readily and accurately than a field in which the available supply is weak and ambiguous. The very weakness of explanations in social science precludes the development of powerful explanations and impedes testing of proposed explanations.

Finally, due regard should be given to the importance of field-relevant knowledge in testing any explanation. Awareness of the logical and methodological aspects of explanation is mandatory in this day and age. Faulty methodology or reasoning can destroy an explanation, but no amount of methodological skill can establish an explanation. Methodology is essentially a negative, and critical, tool. Field-relevant knowledge provides the grist for the methodologist's mill. Explanations are created, and therefore tested, in the interplay of concrete data, methodological competence, and what can only be called "insight," providing that it is understood that "insights" about physics do not occur for those who have no knowledge of physics. No one can guarantee a winning strategy. A lifetime may be spent on a problem without success; the same problem may be solved by another person in a sudden flash of "insight." There is no formula. And those who like to think that there will be room in the distant future for individual talent (why, heaven only knows, since it will not concern them) may take heart from the assurance that there can be no formula, no absolute universe—explanatory or moral.

CHAPTER FOUR

STRUCTURING THE SITUATION

THE process of making a value judgment may begin with some specific condition in the environment that is not compatible with the normative standards of an actor with the capacity to change it, or it may begin with an actor who has the authority to make a variety of choices that have different consequences for different persons in the environment. In either case, the first step in the direction of a reasoned value judgment is to create a structure of descriptions and explanations that will project, as fully and accurately as possible, the alternatives from which a choice must be made. The projection indicates, within the limits of available knowledge, the costs and benefits of each choice, the direct and indirect consequences that will follow from particular actions in the environment. Value judgments are made and justified by reference to these projections. The kind of structure that is needed for reasoned choice is examined in this chapter; the process of choice, and the instruments needed to make choices, are considered in Chapter Five.

CHOICE AND JURISDICTION

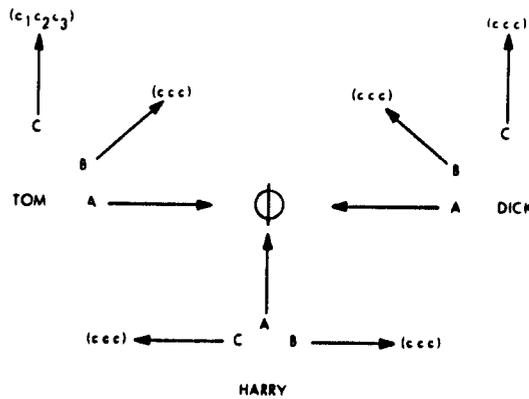
Value judgments are made by particular, individual actors in specific situations. The range of alternatives from which a choice is made must be structured with reference to a particular actor or authority—choice is bounded by the limits of jurisdiction. If a condition can be altered by any one of a number of actors, the choices open to each actor are structured separately and are generally different. If one actor can produce either state *W* or state *X*, and another can produce state *Y* or state *Z*, there is no “choice” between states *W* and *Z* because neither actor has the capacity to generate both of these alternatives. Either *W* or *Z* may appear in the situation, depending on each actor’s choice, but the outcome is unintended with reference to the *W-Z* dichotomy, there is no deliberate or reasoned choice between the two outcomes unless some cooperative arrangement is made between the two actors. The conditions in which such an arrangement might be made are both important and interesting but they are not essential to the discussion set forth below.

The need to identify the jurisdiction in which a choice is made causes no special problems when criticism begins with a specific choice made by a specific actor. But in social criticism, it is more common to begin with some condition in society that requires modification on normative grounds. Here, failure to identify and bound the jurisdictions that have the capacity to alter the condition can lead to serious confusion. For example, if a class of persons requiring attention on normative grounds can be identified (say, a group of children in a large city who do not receive proper nourishment) there may be a number of jurisdictions

with some capacity to alter the situation for *all* of the children, other jurisdictions that can affect the condition of *some* of the children, and perhaps no jurisdiction that can rectify the situation completely. Each situation must be structured uniquely to show particular jurisdictions and the limits of their capacity; each jurisdiction requires a separate structure for each situation in which it has some capacity to produce change. The social critic often demands more than anyone has the power to produce by failing to realize that he is asking for the creation of a new jurisdiction as well as for the exercise of existing authority. Further, authorities will function in a number of situations, and others may deserve more attention than the situation complained against.

A simplified structuring of the problem of jurisdiction is shown in Figure 4-1. The phenomenon (\emptyset) is improper nourishment of a group of children. Three persons have some capacity to alter the situation. Tom is a federal administrator who can provide direct aid from current

FIGURE 4-1



resources. Dick is a local official who can also provide direct aid for all members of the group. Harry is a local businessman who can publicize the situation and thus attract private assistance for the children. For Tom, aiding the children means delaying construction of a camp for orphans. Dick can aid the children only by delaying construction on a new primary school. Harry would have to shelve plans to raise money for a new medical center. From the point of view of the children, which is not represented by an existing jurisdiction, either Tom or Dick could make the choice with no difference in consequences. But if the flow of information is imperfect, no aid may be forthcoming despite the fact that the children stand high on the priority list of all jurisdictions and that none of the three persons regards the children with any malevolence or ill will. Each man's choice is independent of the actions of the others unless one of the men acts in a way that alters the choice structure of the others, for example, if Tom provides assistance for the children, Dick and Harry are left with no need to act. Otherwise, each man chooses in terms of his own capacities and his own calculation of costs and benefits, unless, of course, they meet to coordinate their actions—in which case they will have created a new jurisdiction.

Since Tom, Dick, and Harry will have other interests and associations competing for scarce resources, each man must also explore the possibilities open to him in situations *B*, *C*, and so on, before a course of action can be chosen. It is always possible that a situation that everyone considers deplorable will have a low priority in every jurisdiction that touches upon it and therefore receive no attention or action. Without purposeful cooperation, a "natural" selection system operates to assign action priorities. The social

critic may believe that the children in the illustration need help very badly, yet he may find no grounds for criticizing the actions of those who might have provided help. When resources are scarce, there is always some situation that is normatively undesirable but cannot be altered. The availability of authority and resources is crucial. The Chinese peasant starves while the American farmer burns wheat; children suffer grievously, even in quite wealthy societies, because they live in the wrong geographic region, or have the wrong parents. The rich man's dog *does* drink the milk that undernourished children require and will continue to do so until the jurisdictions in which they live intersect in a single authority with the capacity and the value structure needed to make changes. Here we see the bare bones of the classic social problem—how to deal with the unintended consequences of scale and distance in human interaction. Whether the focus of interest is war, starving children, or highway intersections, events cannot be controlled rationally until a jurisdiction is created with the capacity, desire, resources, and value structure that will lead to intelligent intervention. Legality is not enough; neither are good intentions. There must be knowledge, resources, technology, desire, and the phenomenon must be considered a legitimate object of social action.

If the society in which the undernourished children live is too poor, their problem may be completely insoluble in the short run. But in many cases, particularly in wealthy societies, lack of resources is not the most serious impediment to action. What is lacking is a jurisdiction that can deal with the problem, or indirectly, a set of values that allocates responsibility for the problem to an authority with competence to deal with it. The children's plight indicates a gap in the social ethic. In such cases, the availability

of resources is often obscured by the hidden assumption that the existing distribution of resources must be maintained intact, that the "available" resources consist only in what has not been spoken for. In normative terms, *any* resources that are being expended for purposes that have a lower priority than the case in hand are "available" so long as the cost of mobilization is less than the benefits of re-allocation. Limiting social criticism to what can be done without cost or change is a travesty of responsible moral action. Social conditions that are normatively unacceptable should be sought out, not avoided, particularly where the capacity is available to deal with them. They are handled by extending existing jurisdictions or by creating new jurisdictions. Always the resources and authority must be linked to an appropriate set of values. When the scope of the problem is large, when the capacity of individuals, families, and private organizations founded on goodwill is transcended, the only possible agency for coping with such moral problems is government.

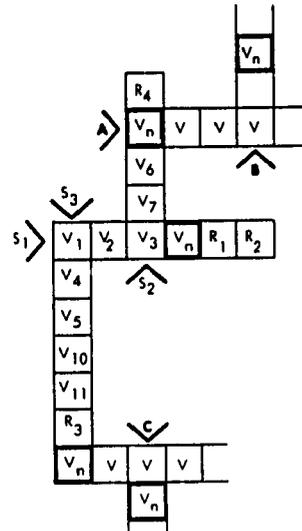
On this view, man's capacity to create the machinery needed to translate social criticism into social policy offers the possibility of altering the human condition to correspond with the desiderata of an ethical structure. Government can become a moral agency by virtue of its capacity to create and modify jurisdictions and mobilize resources for social purposes; that is, one major implication of the claim to sovereignty. But governments are in different degree amenable to control on normative grounds, and collective decision making in particular tends to eliminate responsibility for wide ranges of social phenomena unless it is coupled to an appropriate value structure. And representative governments, historically, seem peculiarly insensitive to criticism in precisely those areas where social

criticism most often focuses—existing inequities in the structure of social benefits and costs. If men accept responsibility for the consequences they generate for others, if they are aware of the limits of their capacity, and if they still seek to deal with the problems their interactions create, they must turn to concerted action. The man who has the capacity to influence others *does* have an impact on their lives, whether he acts or does nothing. By sensitizing men to their impact on others, and by urging them to judge their own conduct with reference to their capacity, some of the normative deceits that characterize modern society—indifference, prejudice, double standards, and so on—might be reduced or eliminated. And by emphasizing the undesirable conditions that will go unchanged unless and until men seek deliberately to create the machinery needed to cope with them, we may yet stimulate the search for the kind of knowledge and machinery needed to alter the situation. Above all, the normative climate could be modified in ways that would transform moral desirability into serious political possibility.

THE BASIC STRUCTURE

Figure 4-2 illustrates the jurisdiction of an actor in a particular situation. The focus of interest in the situation is the value of the normative variable (V_n) in the primary set (S_1). The actor's value system conflicts radically with the situation that the variable describes; the actor is assumed to have the capacity to alter the value of the normative variable by his actions. The structure develops in more or less regular stages. A primary explanatory system (S_1) is needed to link the normative variable to other variables, providing an explanation for the phenomenon, and

FIGURE 4-2



suggesting an intervention strategy for the actor. An unbroken explanatory chain must be forged linking the actor to the normative variable and the normative variable to the consequences of changing its value. At an absolute minimum, the explanatory structure must suffice to link the actor to the normative variable (otherwise, there would be no capacity to alter the situation) and to changes in the values of some of the other variables (otherwise, there would be no basis for reasoned choice). The explanations are here assumed to be adequate and reliable.

To calculate the costs of each choice, the effect of each change that the actor can make in the situation must be projected as far as current knowledge permits. Once the primary explanation is completed, connections between

the variables in the primary set and other variables in the environment are explored systematically for indications that the values of other normative variables are changed by the actor's decisions. The whole set of relations is joined into a single explanatory structure, though each explanation is established independently of the others—the system is related through the common variables shared by the explanations. Related systems of variables that contain no normative variable can be omitted, though potential relations will have to be explored before the absence of normative variables can be established. The rules of interaction that control the operation of the overall system are found within the various subsystems; connections are supplied through the common variables. Separate rules of interaction are not needed unless the subsystems interact as entities in ways that cannot be inferred from their internal rules. Even in this much simplified form, the complexity of the explanatory structure needed for reasoned judgment is fairly obvious. Further, as the size of the structure increases, the interactions of the variables become indeterminate very quickly, the consequences of changing a particular value of a particular variable cannot be calculated, and the source of a change in the value of a particular variable cannot be located—the system passes beyond human control. The overall system must be kept within manageable limits, even at the risk of oversimplification. Some compensations can be made by elaborating the structure of the subsystems and combining them in much simplified form but that requires an explanatory capacity that social science simply does not possess at the present time.

A symbolic representation follows the diagram in Figure 4-2. The diagram and the symbolic structure are precisely equivalent (identical), though the latter is a much more

efficient way of presenting the information. In fact, when a situation is very complex, symbolic representation is essential. Diagrams soon become so complicated and large that they confuse rather than clarify. Furthermore, symbolic representation facilitates the use of logical or mathematical techniques for ordering the relations in the structure. A matrix, for example, can be examined much more quickly, accurately, and exhaustively by algebraic methods than by any amount of visual inspection, even in fairly simple cases. When the matrix is large, mathematical analysis is essential. Since the problem of choice can always be stated in matrix form, that is not a trivial matter.

At the boundaries of any established explanatory system, such as the one shown in Figure 4-2, there are always a variety of "connections" with a range of external factors whose exact status remains uncertain. Such tenuous relations, which may be only suspicions or hunches with some plausibility, can be extremely significant for value judgment, and they appear in the explanatory system as "open" relations—as in columns B and C in Figure 4-2. The point in any explanation where relations grow obscure and uncertain is far more interesting, to the theorist, than the areas where relations are clear and well established. Here creativity, inspired guesses, hunches, and suspicions can take explanations beyond established limits—or expose the theorist to ridicule. The point that is significant for value judgment, however, is that the areas which lie beyond the limits of our present explanatory capacity are not void and empty. They contain "relations" that may be extremely important, even though these relations cannot be guaranteed or even specified accurately. The suspected relation between cigarette smoking and lung cancer is a good illustration of the point; it provided a basis for arguing against

the use of cigarettes because it altered the nature of the risk involved, the magnitude or seriousness of the potential or suspected costs of choosing to continue or begin smoking. A choice that affects the likelihood of atomic warfare, however remotely and tenuously, is categorized differently (one hopes) than a choice that is wholly unrelated to such matters.

THE CHOICES

Given an adequate explanatory system, the actor in a situation chooses from among the various system-states that can be brought about by his intervention. The range of choice open to the actor is not clear in the diagram in Figure 4-2 because the values of the normative variables are not shown and changes in those values cannot readily be compared. If the explanatory system is transposed into a matrix pattern, as in Figure 4-3, where system-states

FIGURE 4-3

System- State	$V_n - A$	$V_n - B$	$V_n - C$
1	high	low	low
2	high	low	high
3	low	high	low

appear as horizontal columns and each variable in the system state appears as a separate box, comparisons are much facilitated. A separate matrix is needed for each jurisdiction, obviously; each matrix structures a single jurisdiction for a single situation. Choice is always particular and specific;

comparisons must refer to the same variables, in the same situation, before they can serve as a basis for reasoned judgment.

The most important single point to be made about the structure of value choice is that the actor must choose a complete system-state including every variable whose value is influenced by his action. The variables included in the system-state are determined empirically and not normatively. Human choice is never cost-free, if only because action requires an irretrievable loss of time. Significant choices will have extensive ramifications in the environment. The structuring of the situation should reveal all of the changes in the environment produced by an action or choice; those changes constitute the cost of achieving desired outcomes in a specified empirical situation. If such costs are ignored, it is an easy matter to select a desired value of a particular normative variable and follow a course of action that will produce it, ignoring side effects. Cancer is readily terminated if the doctor does not mind losing the patient. Because human action always involves costs, reasoned choice implies attention to the relative impact of different kinds of changes for different populations. When choice can be based on the value taken by a single variable, all that is needed for choice is an ordinal scaling of the value of that variable in the system-states that can be brought about in the situation. More commonly, choice involves several "normative" variables, and the value system must permit comparisons of the impact of different changes on different populations. Each normative variable, in other words, is a complex structure and not a unit.

The complexity of the calculations required for reasoned choice can be illustrated by the fairly simple matrix shown in Figure 4-3. The explanatory system contains

three normative variables, each able to take one of two values, "high" or "low." The actor can produce three different system-states by his actions or choices, each shown as a horizontal column (1, 2, and 3). Some of the permutations that are logically possible do not appear in the empirical world and can be ignored; otherwise, the matrix would be much larger and more complex than it appears. The value taken by each variable in the different system-states is determined empirically, or projected by the explanatory system. A two-value scale will suffice for illustrative purposes, but in genuine empirical situations it might not provide enough discrimination for rational choice.

The values of the normative variables in the matrix must be measured at least on an ordinal scale (A is greater than B), and ideally on an interval or ratio scale. As we shall see below, each normative variable is already a complex structure of variables, and rules are needed that will transform the values of the variables in the substructure into values for the overall normative variable. The actor, in other words, must be able to distinguish between the normative consequences of reducing the income of a rich man and reducing the income of a poor man. The actor's preference structure will also contain rules for choosing some values of the normative variables in preference to other values for those variables. And, since value judgments are usually made in situations that involve more than one normative variable, each taking a different value in the different system-states possible in the situation, complex comparisons must be feasible within the limits of the rules of choice embodied in the ethical structure. The actor must be able to do more than balance increased longevity against increased pain. The desirability of poverty and honesty as against riches and unhappiness must also be weighed if

those concepts are used in the ethic. Each system-state must be compared with the others *as a whole*. It is not enough to compare different values of a single variable.

Although the problems involved in scaling the normative variables appear at first sight to parallel the problems involved in operationalizing the "utility function" in the mathematical theory of games, that is not in fact the case. The axioms of game theory require interval scaling or ratio scaling before the calculating apparatus can be employed. Social science, needless to say, can rarely produce the requisite measurements. But those who use the parallel to attack all attempts to make use of logical calculation in normative affairs are mistaken. However desirable the kinds of measures that game theory requires might be, and they would open a very rich toolbox for the social scientist, the fact that social scientists cannot satisfy the axioms of game theory cannot be taken to mean that all normative calculations are impracticable, impossible in principle, or meaningless. Where calculation is impossible, thought and choice are impossible. A great deal can be done using simple ordinal scales. The emphasis shifts from the measurements used to fix the values of the normative variables to the rules of choice that are used for making normative judgments. Limits on man's capacity to measure the value of normative variables alters the kinds of rules of choice that are needed but does not invalidate the search for such rules. Furthermore, the kinds of problems that must be handled by the critical apparatus in social science at the present are so gross and rough that the structure needed to cope with them need not be overly refined. The analogy, for the present, is to clearing ground with a bulldozer rather than machining a precision tool. An instrument that can detect gross macroscopic differences in outcomes may

serve quite adequately as an explanatory base for decisions; an instrument that can systematize preferences at the same level of generality may serve our normative needs equally well.

Moreover, there are various ways in which the complexity of the measurement problem can be reduced or managed satisfactorily. First of all, sheer resource requirements usually limit man to a few problems, involving a few variables, at any given time and place. All that is needed is adequate consideration of some few items at the top of the priority list. While the initial value matrix may appear large and cumbersome, the size of the structure can usually be reduced quickly and radically by the application of certain rules of thumb embedded in the accepted set of values. There are always constraints and prohibitions that are not readily ignored—the desire to avoid unnecessary sacrifice of human life, for example, constrains even military planners in wartime (in the Western world at least). On the other hand, there are positive outcomes usually considered so desirable that secondary costs or consequences can usually be ignored—the man whose life is saved by an appendectomy is not usually concerned if the operation leaves a small scar on the skin surface. As we shall see in Chapter Five, the character of a value standard depends on the needs of the user and the empirical situation in which it is employed, and it ought to be possible to identify sets of variables that are crucial in particular recurring situations, thereby much simplifying the measurement and calculation problem without losing control over the process by which value judgments are made.

So much said, the fact remains that social science needs to develop a more adequate set of concepts and indicators for dealing with normative matters and with related ex-

planatory problems. While some attention has been given to the special problems of indicators and measurements in social science, at both the micro- and macroscopic levels¹, much remains to be done, particularly in political science. Too often, indicators are taken directly from economics and business with little attention to the aspects of human life that are thereby ignored; witness the tendency for governmental officials to deal with poverty in the same way that the croupier rewards and punishes bettors at a roulette table. Recent attacks on the utility of the concept of gross national product as a basic indicator of social health are heartening, but thus far it must be said that social scientists have demonstrated very little ingenuity in their use of observables as indicators for normatively significant social phenomena.

CONSEQUENCES

In the conception of value judgment that has been developed in the course of this essay, choices are justified by reference to the consequences they entail for individuals or classes of persons in a particular situation. Consequences, which are measures of the impact of one person's actions on another person's life, have to this point been conceptualized simply in terms of "normative variables" whose values can be altered by the choices of the actor in the situation. The kind of analysis of the judgmental process needed for adequate criticism of value judgments cannot be built, obviously, on a simplistic notion of consequence.

¹For example, Raymond A. Bauer (ed.), *Social Indicators* (M.I.T. Press, 1966); Eugene J. Webb, Donald T. Campbell, Richard D. Schwartz, and Lee Sechrist, *Unobtrusive Measures: Nonreactive Research in the Social Sciences* (Rand, McNally, 1966); Aaron V. Cicourel, *Method and Measurement in Sociology* (Free Press, 1964).

Accurate differentiation among a range of different consequences is essential: indicators must be supplied for the concepts used to classify consequences; rules must connect the values of the indicator variables to the values of the normative variables.

Every individual can be conceived as a set of attributes or properties, or a set of variables whose values are determined by observation. The list of properties is infinite, potentially, and new concepts can always be added to it. Human attributes range from the physical dimensions of life through psychic states to complex relations with others. Some of man's attributes are genetic, fixed at birth and unchangeable; others change with age and experience; still others can be altered readily from the environment. The precise meaning of a normative consequence can be stated very precisely and clearly by using this conceptual framework. It also serves to illuminate the processes by which value judgments are made—as we shall see in Chapter Five.

A crucial part of every ethic is the selection of human attributes that is considered normatively significant; a critical need in every situation is for a set of priorities for ordering these variables according to their values. The variables that are good indicators of the impact of choice on human life must be identified and ordered. Clearly, if A's actions are to have *any* impact on B, some variable in the set that defines B must change its value. Every change in every attribute variable has *some* impact on the person but not every change is significant. Everything depends on the circumstances. Significant changes depend on, are defined with reference to, various other attributes of the person. A given change may have quite a different impact in two different situations or for two different persons. Of course,

the significance of a given change does not depend on the *identity* of the person for whom the change is relevant; it depends on his attributes. Value judgment, in other words, must deal with clusters of human attributes or properties and not with single variables. The impact of a change in the value of a single variable cannot be judged in isolation. The context must also be specified.

The analytic structure that is required for an adequate treatment of "consequences" is developed sequentially in Figure 4-4. In (a), the individual is shown as a set of

FIGURE 4-4

$$\begin{aligned}
 (a) \quad & [v_1 \ v_2 \ v_3 \ v_4 \ v_5 \ v_6 \ v \ \dots \dots \dots v_n] \\
 (b) \quad & [[v_{I_1} \ v_{I_2} \ \dots \ v_{I_n}] \ [v_1 \ v_2 \ v_3 \ v_4 \ v_5 \ v_6 \ \dots \ v_n]] \\
 (c) \quad & [[v_{I_1} \ v_{I_2} \ \dots \ v_{I_n}] \ [v_{B_1} \ v_{B_2} \ \dots \ v_{B_n}] \ [v_1 \ v_2 \ v_3 \ v_4 \ \dots \ v_n]] \\
 (d) \quad & v_N = (v_{I_1} \ \dots \ v_{I_n} \ \quad v_{B_1} \ \dots \ v_{B_n} \quad r_1 \ \dots \ r_n)
 \end{aligned}$$

undifferentiated variables, some of whose values can be altered by the actor in the situation. The values taken by those variables are determined by observation. In (b), the various attributes of the individual that can be modified directly by the actions of persons in the environment are separated from the composite structure and identified as *indicator variables (VI)*. A change in the value of one of the indicator variables is a necessary and sufficient condition for asserting that some action has had an impact on that person. Since any given impact may be trivial or highly consequential, depending on other characteristics of the individual, a second group of variables must be identified that, taken in combination with the indicators, permit a

specification of the magnitude or intensity of the impact (and therefore supply a value for the normative variable). These *buffer* or *mediator* variables (*VB*) are shown in (c). They either cushion or amplify the scope of the impact on the individual of a given change in an indicator variable. The buffer variables allow us to classify for normative purposes all persons who are affected in the same way by the same change in the environment; they are essential, obviously, for calculating the consequences of adopting different social policies or for evaluating any choice or action that has an impact on other persons. The buffer variables classify persons in the environment according to their insulation from, or vulnerability to, particular changes in the environment. When social priorities are being assigned, the relative vulnerability of different classes to different kinds of actions is an important factor in the choice of means for achieving desired goals. The normative variables are a composite of indicator variables, buffer variables, and rules for calculating the value of the normative variable from the values taken by the mediators and buffers.

An example will suggest the usefulness of the classification schema. Suppose that a thief extracts all of the money from the wallets of a number of persons in the course of an evening's work. In each case, his actions have had *some* impact on the individuals concerned because one of their indicator variables (cash on hand) has changed value. But the normative impact of that change, its normative significance, cannot be determined from that information alone. The loss may be trivial or it may be catastrophic. It may have no effect whatever on the life style of the individual, or it may in other circumstances change the life of the individual irrevocably. Maupassant and O. Henry have chronicled the kind of variance that occurs in such cases with

great skill and imagination. How is the impact of a monetary loss to be determined? Clearly, the absolute amount of the loss means little or nothing. The effect of losing a fixed sum, or even a fixed portion of total assets, cannot be determined until the concepts in which "impact" is to be measured are specified and other attributes of the individual relevant to changes in the values of these concepts have been identified and measured. Which of man's attributes are relevant to impact? That depends on the variables used to measure impact. Which variables should be used to measure impact? Supplying them is the function of an ethic. How they might be supplied will be suggested in Chapter Five. Clearly, an ethical structure that places a high priority on psychic states will be concerned with different attributes than an ethic that is concerned primarily with access to resources; the results of evaluating a particular action will vary according to the ethic that is applied to them. In either case, factors such as wealth, education, attitudes toward money, relations with other members of the family, and so on, could all be relevant. So could more abstruse qualities such as the propensity to spend additional income for educational or recreational purposes. There is no way to assess the normative significance of a particular change in general terms.

Clearly, we need much more information about the "buffering" properties of different sets of human attributes in different circumstances, stipulated in terms of a variety of more purely normative concepts that could be used to measure impact. Wealth can isolate an individual from the environment and its influence to a remarkable degree but the significance of the isolation will depend on the normative concepts used to evaluate the situation. It may be possible to pity the rich and envy the poor on rational grounds,

though it seems likely that it would require a radically skewed ethic and a considerable amount of misinformation. More generally, information is badly needed about the sets of attributes that aggregate individuals with respect to their response or reaction to major changes in the environment. The information may range from cognitive skill, awareness of competence, and self-confidence to the range of factors that relate to the individual's capacity to withstand stress. Relevance cannot be established, obviously, until a selection of normative variables has been made. The various criteria that must be satisfied by the normative variables, and the procedures that relate to the selection and testing of such variables, are discussed in more detail in Chapter Five. This brief discussion of their general structure was needed to round out the discussion of the relation between explanations and choices.

For the social critic, a major implication of the discussion thus far is the need for social science to find ways of defining the classes of persons whose conditions of life are sufficiently similar so that they react as a class to a common change in the environment. Much time has been spent, for example, trying to specify the impact of various kinds of proposed legislation on the class of persons usually defined as "the poor." But what appears at first glance as an eminently reasonable enterprise is in fact an impossible and useless task—though populations are quite commonly differentiated on this base and legislation very often makes reference to it. For if the members of a class (say, the poor) are not homogeneous with respect to the impact of a change produced through legislative action, then the class will have to be redefined until its subclasses *are* made up of persons who are affected in the same way by the same action, otherwise the impact of the proposed law

could not be determined and no choice could be made. The classification systems now used in social science are not particularly useful or relevant in normative discussion. For the most part, they tend to be accidents of history or derivatives of economics. They do not, for example, differentiate among the classes of persons in society who are in varying degrees able to provide or create an adequate life for themselves and their children, or who are able to respond adequately to relatively "minor" changes in the environment such as recessions or prolonged social unrest. On the other hand, little has been done to provide knowledge of the consequences that can be created by means other than fund transfers within society. Without such knowledge, it is impossible either to locate the "soft spots" in society, or to do much about them.

NORMATIVE DISAGREEMENT

The complex processes involved in value judgment proceed in all cases from a descriptive/explanatory (empirical or factual) base. Serious discussion at the strictly normative level is literally impossible until agreement has been reached with respect to the basic explanatory apparatus because the choices in normative judgment refer directly to the outputs of the explanatory structure. Until the factual base is agreed, until the projection of consequences has been accepted by all of the parties concerned, it is impossible even to know whether there is agreement or disagreement at the normative level. That is, if actor (*A*) chooses outcome *X* in situation *S* while actor (*B*) chooses outcome *Y* in that same situation, there is neither agreement nor disagreement between them unless both (*A*) and (*B*) agree precisely on the definition of *X* and *Y* and further

concur in the belief that the choice in that particular situation lies between *X* and *Y*. The point is not startling, certainly, but the principle is often violated in everyday social discussion and even in social philosophy. Most of the argument about values in the social sciences, and even in traditional moral philosophy, relates as much to empirical questions as to strictly normative matters. It is even possible that there has never been a genuine disagreement over normative questions because the kinds of explanations that are needed before disagreement could be demonstrated have not been available. Our preliminary treatment of the factual dimension of value judgment is meant to provide the criteria that are needed to distinguish purely normative from factual disagreements, and in some measure to help resolve the latter.

Once agreement is reached at the empirical level, that is, given an agreed situation in which stipulated consequences are expected to flow from a given set of alternative choices, purely normative disagreements may arise with reference to two, and only two, points. First, there may be differences over the composition of the set of normative variables that is applied to the situation. One person may insist that variable *X* ought to be weighed in the balance when normative judgments are being made while another may assert that the value taken by that particular variable is a matter of indifference—either in that particular situation, or without regard to the particular circumstances. Regardless of the particular argument used to justify each position, the point at issue here is the dimensions of human life that are considered to be normatively significant. In practice, disputes at this level are easily settled by agreeing that *any* variable, any dimension of human life, can be normative, depending on circumstances. In effect, the argu-

ment is then transferred to another level where the fundamental question is, "What is the order of priorities to be assigned to the different variables in a given situation?" The question of priorities is crucial, and unavoidable. While it cannot be resolved here, it is possible to examine the functions that priority systems perform and the instruments needed to perform them, and that will be done in Chapter Five. What is important to emphasize here is that the priority structure is never absolute. Priorities must be established for particular situations. Formally, a priority system is a rule of ordering that can be applied to an identified set of outcomes. Both the rule of ordering and the set of outcomes to which it applies must be unambiguous.

There can be no guarantee that agreement at the empirical and cognitive levels will produce normative agreement; men may continue indefinitely to differ over normative priorities. And there is some evidence to show that a whole range of influences can operate at the level of priority assignment that are likely to lead to disagreement, some very deeply rooted in the differential genetic endowment of man. Men disagree, for example, with reference to the amount of risk that should be accepted to achieve a particular set of goals, about the limits that ought to be placed on human ambition, about the proper role of punishment and restraint and free choice. Given the degree of individuality known to occur genetically among men, it seems unlikely that all forms of normative disagreement can be resolved, or that a single normative system can be created in which everyone can concur. And it may not be desirable, considered in terms of its consequences.

Given the likelihood that disagreements over values will continue, systematic inquiry into normative affairs will have as its first task a clarification of the issues at stake

and the arguments that can be adduced on either side—no mean task, considering the magnitude of the problem—rather than resolving differences over values. If no more can be done than to drive the discussion of values to a point where the empirical dimensions of the argument have been agreed and the sole remaining questions have to do with the order of priorities to be assigned to different variables in different situations, that would be cause for great rejoicing. And in truth, a revolutionary expansion of man's capacity to explain social phenomena would be needed before that limited goal could be achieved. In the meanwhile, systematic study can provide some basis for narrowing the search for social knowledge by generating tentative standards of relevance. And the attempt to argue value priorities against a background of clearly understood empirical requirements and limitations should help to eliminate grossly untenable arguments and point the direction in which normative justifications will have to develop if they are to be accepted on reasoned grounds.

CHAPTER FIVE

VALUE JUDGMENT

THE more narrowly “normative” dimensions of value judgment comprise the processes and instruments required to make and justify particular choices. In the treatment of the value part of the fact-value relation that follows, the focus remains methodological rather than substantive, concerned with the rules of the game rather than the conduct of play in any particular game. No solutions are offered for the more urgent and pressing problems of the day, though the material has an important bearing on the way in which solutions to those problems are pursued and on the kinds of solutions that are considered acceptable. Given the present state of development of normative inquiry, it would be virtually impossible to begin formulating normative problems in a useful way without first exploring the methodological underpinnings of the form of inquiry. Obviously, social science must also deal directly with the values actually employed in society, seeking to locate lacunae and inconsistencies, examining the quality of the justifications offered for different normative standards and principles, studying the consequences of using sets of standards and

principles in different situations. Systematic correction and criticism of the operating normative structure is vital, an unending and difficult task. The purpose here, however, is not to correct the structure but to indicate the processes and instruments needed to make such corrections.

REASONED CHOICE: AN OVERVIEW

Construed as a process, value judgment is reasoned choice. To make a value judgment is to choose from among alternative system-states in a concrete empirical situation. And to choose means to place the members of a class along a preference continuum, to apply a standard to a class, to compare each member of a class in terms of an ideal and order them by the results obtained from the comparison. At an absolute minimum, therefore, the process of reasoned judgment or reasoned choice (or merely "choice") involves: (1) two or more alternatives that are in some respects different; (2) a standard or rule of ordering that can be used to express a preference among those differences; and (3) a calculus that can apply the standard to the situation in hand, that can generate the implications of the standard for a particular case. Reasoned choice, considered as a process, is a kind of cost-benefit analysis, though the meaning of cost and benefit need not be stated in terms of dollars and cents.

In normative judgment, the objects of choice are the alternative system-states that can be attained in a concrete situation through human intervention. Each of the system-states must contain one or more normative variables; the values of the normative variables must be different in the alternative system-states. The standards used to make particular choices will refer directly to the values taken by the

normative variables but the actor will actually choose a complete system-state. An ethic, then, must contain two kinds of standards: first, those that order the values of a single normative variable; second, those needed to establish priorities among clusters of variables when there are incompatibilities or conflicts. The calculus (or value system) serves to apply an accepted standard to a particular situation by projecting the implications of the standard in terms that are relevant to the particular choice the actor must make.

A normative standard asserts a preference for some value or values of a normative variable over others, or assigns priorities among the normative variables in a cluster. Standards may be generalized in the form of ethical principles in the same way that explanatory principles may be generalized in the form of theories or laws; the particular rule can then be deduced from the general principle. Implicitly or explicitly, every human action is an application of some standard or standards to a particular situation though the principles being applied cannot always be inferred from direct examination. The actor acquires a justification for particular choices by accepting a standard or principle and showing that the choice is a logical implication of the standard. If his calculations are performed correctly, the choice is justified with reference to the standard. The standard in turn is accepted because the actor prefers, for reasons that may vary considerably, the outcomes generated by its use in stipulated situations to the outcomes generated by any other principles.

In the simplest case possible, each of the system-states available for choice will contain only one normative variable. A choice among the system-states can be made if the actor can (1) measure the value of the normative variable,

(2) locate or create an acceptable standard for ordering the values taken by the normative variable, and (3) show that the logical consequence of accepting that standard is a particular choice. Certain distinctions need to be maintained very carefully. First, the actor chooses the whole system-state, not just the normative variable. Other normative variables, or "hidden costs" may appear that will alter the outcome, and therefore alter the choice. Second, the standard differs from a measurement in the same sense that the length of a fish differs from the game laws that specify the size fish that an angler may keep. Third, the standard differs from the calculus that applies it in the same way that finding out what the law relating to minimal size for fish stipulates differs from the decision whether or not a particular fish can be kept, given the law. Finally, since each of the normative variables is a selection of the properties or attributes of a class of living persons, the value principles must include enough of those variables to identify the relevant class and the proper empirical indicators. The normative variables must stipulate the class of persons for whom a choice has impact as well as the variable used to measure that impact.

In a single-variable, n -outcome situation where the normative variable is the daily intake of nourishment by a class of young children, reasoned choice demands the capacity to scale the amount of nourishment received by each child in each system-state at least ordinally (well enough to establish some standard). The standard applied to the situation will order the values of the normative variable according to their impact on the lives of the children, for example, "The value of the variable should be higher than the amount needed for proper growth and good health but lower than the amount that would lead

to obesity." A competent nutritionist could readily supply accurate figures, and good reasons for accepting them, given a modest amount of information about the children (weight, age, and so on). The principles or purposes served by that standard can be quite varied, for example, "Children should be supplied with sufficient resources to ensure maximum physical and mental maturity," or "Pain, hunger, and other disruptive emotional reactions should be minimized." This characteristic of the application of normative principles to particular cases is troublesome mainly when the accepted ethic contains only a very few standards or principles. As the network of standards is enriched and amplified, the ambiguity of the specific case declines. In any event, the values taken by the normative variable in the set of projected system-states from which choices are made are compared to the range of values specified by the standard. Any system-state in which the value of the variable falls in the desired range is acceptable *in terms of that standard*. If the desired range is not found in any of the system-states, the standard may have to be loosened, widening the range of variance considered acceptable and thus creating a new standard. If too many system-states produce acceptable values the situation is not significant with reference to the standard. Of course, when that occurs there may be other reasons for tightening the standards or reducing the range of values considered acceptable for that normative variable.

Each normative variable must have its own standard. The standard will specify both a class of persons (buffer variables) and a set of indicators, with their appropriate values. The standard is created by assuming that the normative variable functions alone, that for a given class of persons the value of only one variable changes. In practice,

that situation rarely appears and the standards used to assign priorities to the different normative variables in a situation are far more important than those used to deal with single variables. But the priority standards are in fact absolutely contingent on the standards applied to individual variables; if the latter were not available, they would have to be created before priorities could be assigned. That is the sense in which an ethic must be constructed from the ground up, analytically if not empirically and historically. The single-variable standard is always antecedent to the priority standard. However, the process of constructing an ethic cannot cease when a standard has been constructed for a single normative variable, for the limitations and dangers of single-variable ethics are notorious. An observer seeking instances of murder could ignore aggravated assault and the hedonist who concentrates on happiness can applaud the situation in which men are happy pigs. In ethics, as in explanation, we must deal with complex sets of variables whose combined impact on human life provides the basis on which major dimensions of the human condition can be adjusted. The problem is to identify the recurring patterns that must be controlled and modified. Man does not need, and cannot produce, a consolidated ethical structure that is derived completely from a single set of axioms. The optimum level of generality of the sets of variables needed to deal with value questions can only be determined pragmatically, in the same sense that the optimal time period for instructing a particular child must be determined experimentally and not projected from some iron rule. And what constitutes an adequate selection of normative variables for one culture (say, food, clothing, shelter, and the other physical necessities of life) may be quite inadequate for another culture in which the potential is much higher.

Whether a situation contains one normative variable or several, whether the standards being developed are intended for use with one variable or many, the purpose that the standard is intended to satisfy remains the same. By definition, value judgment is concerned with the impact of man on man, with the consequences of human action for human life. That is the primary assumption on which this discussion of values is premised. But the form of the standard will be different, depending on the kind of situation to which it applies. For a single-variable standard, the form is: " A_x is to be preferred to A_y ," where x and y are the values of variable A . In a priority standard dealing with two or more variables, the form is: " $(A_x B_x \dots N_x)$ is preferred to $(A_y B_y \dots N_y)$." In every case, all of the normative variables are attributes of a single person or class of persons and each individual variable is a composite of class attributes.

As an example, consider a two-variable situation in which each variable can take only two values, high and low, and there are two possible system-states. The standard for each variable is accepted or created first; the priority standards mediate among the variables in cases of conflict. Suppose that the two variables are identified as the amount of education and amount of nutrition provided for a particular class (defined by age, capacity to learn, and so on). Typical individual standards might be: (1) choose the value for nutrition that will supply physical needs without leading to physical debilitation and (2) choose the value of education that is the highest compatible with the capacity of the child, judged tolerantly and in the child's favor in all cases. Some of the outcomes that are possible in the situation can be evaluated in terms of the individual standards, without additional priority rules. For example, if *both* education and nutrition take high values or low values,

these are clearly the best and the worst possible outcomes, in terms of the individual standards already accepted, and a choice can be made based on those standards. But when a choice must be made between high nutrition levels and high education levels, a new standard is needed; each outcome is desirable individually and a genuine conflict must be resolved. The question now is to find a rule for comparing desirables, to decide which desirable outcome should be bought by sacrificing the other.

In this situation, the actor must return to the set of purposes used to generate individual standards, seeking reasons for choosing among the standards themselves. In most cases, the result will be a fairly complex set of rules, not a simple absolute. For example, good reasons can be offered for preferring food to education for young children to the point where brain damage is avoided and growth proceeds normally. Beyond that point, the priority structure will change and the location of such transition points is a major problem in priority allocation. The priority of variables may change over time, but changes can usually be dealt with by specifying the conditions of choice sequentially. Thus, in a multivariable situation, the first step in judgment may be a search for variables whose values fall below prescribed minimum levels, stipulated individually. When they have been located and corrected, or if none have been found, other variables may be changed in value, in some specified order, until given levels are reached. Ultimately, all of the relevant standards are reached, resources are exhausted, or some other situation intervenes to attract attention because it has a higher priority. The calculi needed to work out the implications of priority standards are more complex than those needed for individual standards but the principle involved is exactly the same.

When the set of possible outcomes is very large, rules that specify wholly unacceptable values for particular variables may serve to eliminate large numbers of outcomes from consideration, much simplifying the task of choosing. Again, certain combinations may be proscribed because their combined impact is considered grossly undesirable. So long as we bear in mind that we are dealing with changes in the attributes of living persons, the structures taken by standards and the reasons used to sustain them, are readily comprehended.

Ethical standards are the heart of an ethic. But standards can be aggregated and generalized in the form of ethical principles, general statements of the purposes that are served by particular choices. Individual standards can then be inferred from these more general principles in the same way that generalizations can be deduced from theories in explanation. In effect, ethical principles summarize concisely a range of particular and specific rules of choice, at some risk, of course, of vagueness and ambiguity. The process by which ethical principles are created, like the processes involved in creating explanations, is not known, though it is usually referred to as "induction." Analytically, ethical principles are contingent upon the content of individual standards, though empirically individual standards may be derived from more general principles already accepted. Origins and priorities are obscured in history by the ongoing character of the enterprise. Principles are justified, however, because of the standards that can be deduced from them, or more precisely, by the consequences that follow from applying them to concrete situations. In this sense of the term, very few of the ethical postulates commonly accepted in Western society would qualify as acceptable ethical principles without amendment. Yet it

seems likely that the content of traditional ethics will provide the basis for any ethic that Western man is likely to produce and accept in the near future, if only because of the extent to which those principles are embedded in our institutions and practices. But the structure will have to be clarified, the meaning of terms examined more carefully, and the justifications related to the empirical context in which the principles apply.

Little needs to be said about the calculi used to apply normative standards to particular situations. Logical inference provides man with his only justification for accepting a particular choice as the consequence of applying a particular rule to a situation. If the law states that fish must be 12 inches long to be kept, and the fish we have just caught measures 11 inches, logic tells us that the fish must be returned to the water if the law is to be applied in the situation. The calculations are complex because rules are needed to transform standards into measures but the process is well understood because such calculations are commonplace in our society. While the logical or formal properties of a calculus in no way serve to justify the normative standards it incorporates or applies, men must have a way of testing implications (for that is what "application" means), in ethics as in explanation, and for man there is no possible alternative to formal inference. Logic is the technique by which man maps a course through the jungle of possible, plausible, and likely alternatives from which he must choose. Logic allows him to choose what is convincing rather than merely plausible, or more precisely, what ought to be convincing for a competent calculator, given the frame of reference in which the choice is made.

To summarize briefly, the processes by which value judgments are made center upon the concrete, specific

case. In the first instance, standards are required that will indicate the preferred or desired values for each of the normative variables in the situation; standards translate goals or purposes into rules of choice. For multivariate situations in which there is a conflict among desired outcomes, priority standards refer to the same set of purposes to provide rules for deciding conflict, extending the standards used to choose values for individual normative variables. Ethical principles are generalizations from which individual standards can be derived, a shorthand way of stating rules of choice. Principles are not created a priori and they cannot be justified by reference to their intrinsic properties or by reference to "higher" principles. The justification for any standard or principle must lie in the consequences that follow from its use, as compared to the consequences that would follow from the use of any other principle or standard in the same situation. In value judgment, as in explanation, a curious kind of circularity operates in which standards are justified by their results and results are accepted because standards are accepted. We shall return to that aspect of the evaluative process shortly.

An illustration

A somewhat detailed examination of a particular kind of reasoned choice may serve to clarify both the processes involved and the instruments needed for the activity. The relation between human purposes, standards of choice, and calculations is readily demonstrated by reference to an uncontentious and commonplace example such as the selection of a family pet. Whether the choice is triggered by the availability of an animal or by some other circumstances is not very important; the same considerations

must be structured in the same way in either case. Choice requires a number of preconditions, most importantly a willingness to act or need to act (purpose), a capacity to act, a set of options (suitable candidates for the position of family pet, in this case) with different implications for the future; some conception of desirable and undesirable outcomes (normative variables and appropriate standards) that can be used to order the projected outcomes, and a calculating device for exploring the implications of the accepted standards for the situation at hand. Ultimately, the choice will serve specified human purposes as fully as the actual situation permits. In the example, the purpose is to acquire a pet.

The concept "pet" is too broad to be very useful and must be narrowed. Neither the variables used to define the concept, nor the standards applied to those variables, are likely to be the same for a Texas cattleman and a Park Avenue dowager; there is no universal conception of a pet that will satisfy all purposes. The vagueness can be eluded and ambiguity reduced by specifying as precisely as possible the kind of situations that are considered desirable, the goals or purposes that choice should, ideally, achieve. That specification can then serve as a base for comparing possible outcomes and choosing among them. The desired outcomes must be relevant to the choice at hand. It would be pointless to expect the course of world affairs to change because a particular pet was chosen, even by a Texas cattleman, hence improper to make use of standards based on such expectations in the choice of a pet. The procedure by which a pet is actually chosen and the range of choice that is available to the actor, do not affect the analytic structure used to describe the process. The purpose that a pet is intended to serve may extend from protection of house

and property to rather vague notions about "having a dog in the house to provide company for the children," but without some statement of purpose there is no way to make a reasoned choice, whether of a pet or any other set of objects. On the other hand, it is obvious that purposes could not be created without some knowledge of the kinds of purposes that can be entertained by man in different sets of circumstances.

The purposes of the chooser are used to define a set of outcomes from which a choice can be made. The actual members of the class of outcomes are determined empirically, but the empirical search is contingent upon purpose. For example, the man who is seeking protection against a number of potentially hostile intruders will specify a different set of desirable outcomes than the man who is looking for cheap and friendly entertainment and instruction for his children. Each set of specifications will produce a different set of available alternatives in a given situation. The more fully and precisely the specification of desired future outcomes, the narrower the range of choice is likely to be. The man who wants a noise like thunder has a more limited range of instruments available to him than the man who wants a noise like a popping cork. Purposes, in other words, can be embodied in statements about future situations. Out of such statements of purpose come standards, defined in terms of the values of the crucial variables in the projection on the future from which a choice is made.

The normative variables, in this context, are those which are relevant to the purposes that choice must satisfy. A conceptual or explanatory link is needed between the purpose that choice will serve and the values taken by these variables. When a dog is wanted for protection, for example, size and strength are immediately relevant because

they influence the dog's capacity to perform the operations ordinarily associated with "protecting." The length of the dog's tail or his color, on the other hand, are not directly relevant to the purpose "protecting" and can safely be ignored—unless knowledge of other variables is not available. The caveat is important. In a sense, almost everything can be connected to everything else so long as remoteness and uncertainty are irrelevant. As the connection grows more tenuous, the likelihood that a change in one variable will produce a change in the other decreases virtually to nothing, of course. But if weakness is ignored, and inferences are stretched to the breaking point, *some* connection is possible between almost any pair of variables. Variables can always be related, in other words, but the connection will be remote and the linkage weak. A long tail is not directly relevant to a dog's capacity to protect, but a long tail may serve as an indicator of the dog's size and hence be indirectly relevant to that capacity. The connection is weaker than the relation between size and strength and protective capacity but still useful. In fact, other relations, weaker still, may serve a useful purpose if stronger relations cannot be established or are not known.

Given a human purpose, and nothing can be done in explanation or evaluation without one, standards can usually be generated that relate specific values of specific variables to the achievement of purpose—as we have linked strength and protective capacity. The ideal is a minimal selection of variables with a maximum range of values; that produces a maximum range of choice. The collection of variables and their appropriate values provides the ideal or standard; empirical observation identifies the members of the class from which a choice can be made. The implications of choice are projected in terms that are relevant to

the standards, or the implications of the standards are projected in terms of the available choices. Even if the ideals are stipulated using the same set of variables (size, cost, strength, capacity to learn, aggressiveness, and attention required, in the case of a pet) differences of purpose may dictate quite different ranges of acceptable values for each variable. Two men, one seeking protection and the other companionship, may go to the same animal shelter in search of a dog and choose from the same set, but make quite different choices. In fact, they do not even choose from “the same” set because they define their prospective choices in terms of different values for the variables that can be used to classify the available animals. Our analytic structure is intended to account for such differences, and to allow us to state precisely how and why they occur. It would be pointless to criticize the man who is seeking protection for choosing an animal that will not satisfy the purposes of the man who wants a pet for his children though the two purposes might, in some circumstances, be fulfilled best by the same choice. That is the reason why value judgments must include a statement of the purposes or assumptions that the choice is expected to fulfill.

Since possibilities and standards rarely coincide perfectly, whatever the object of choice, a very complex weighing and balancing of desirable and undesirable consequences and costs of attainment is normally part of every choice, which is only another way of saying that choice cannot be cost-free. By accepting standards, the actor acquires a basis for reasoned choice; standards are specified in terms of desired outcomes, and outcomes are specified in terms of normative variables and their values. In effect, by elaborating the implications of the purposes implicit in normative standards a class can be identified from which the purpose

can be fulfilled. Cost-benefit analysis of the extent to which desired objectives are fulfilled by each available empirical choice is the heart of the judgmental process. The calculating apparatus must identify relevant variables and calculate the weight to be attached to each when they conflict. The structure must be precise enough to allow reasoned inferences but not so complex that the calculations cannot be performed. Reasoned choices are logical inferences from known principles; a *non sequitur* is not a reasoned choice and an ambiguous inference is a contradiction in terms. And neither a *non sequitur* nor an ambiguous inference or implication can be tested or criticized. A reasoned choice is a forced conclusion from given premises, not open to interpretation, judgment, or argument except on logical grounds. The fact that a dog is large and strong does not imply that it will attack anyone who seeks to molest his master; the fact that the dog will attack intruders may only mean that the head of the house is likely to be fined a mouthful of calf should he venture into the room where the brute is sleeping.

Put in another way, choice depends on a comparison of an ideal type, which embodies the standards that pertain to the different variables used to define the class of creatures from which a pet is chosen, and the various members of that class. The degree of isomorphism between ideal type and available choices, in other words, determines choice. Both the number of points of isomorphism, and the kind of isomorphism that can be achieved are significant. It is often more important to obtain specified values of particular variables than a large number of similarities from which certain crucial variables are missing. In choice, some variables are more significant than others, and the points of isomorphism must be weighted—the basic reason,

perhaps, why the “*N*-of-instances fallacy” is so mischievous in attacking the isomorphism problem, whether in explanation or in evaluation.

Minimum standards, when they can be created for particular situations, are very useful and desirable. They serve as indicators for situations in which no reasoned action can be taken and for situations that are normatively indifferent—where any of the outcomes that the actor can produce are desirable in terms of the accepted ethic. When a situation is normatively indifferent, and there is no reason to suppose that the standards are inadequate, choice can be abandoned to whim or taste without normative penalty. When the results of not acting are not acceptable, the situation is quite different. When action is forced, standards must be loosened. By eliminating variables or widening the range of acceptable values for particular variables until a choice can be made, we remain in control of the situation at least to the extent of knowing the standards that have been applied. In such circumstances, clear identification of the actual standards of choice employed in judgment is crucial if we are to avoid self-delusion. Ideally, man seeks to avoid the polar extremes of an ethic so strict that nothing in human life is a matter of indifference and standards so loose that everything is a matter of indifference and one might just as well stroll the streets casually bagging passers by with a revolver, as someone once suggested to the Dadaists.

All things considered, man may prove unable to go beyond the identification of normative purposes and the standards needed to achieve them in particular situations. I do not believe that a convincing argument cannot be found for preferring any outcome to another in a given situation, but even if that were the case the program of

inquiry implied by our conception of value judgment would be worth pursuing. The clarification of principles and purposes that could be achieved would alone be an enormous gain. Further, individual value judgments are open to criticism on grounds of consistency, vagueness, relevance, and empirical adequacy, even if no better judgment can be offered. The relevance of standards to purposes is open for discussion; and the correctness of the calculations used to apply standards to situations could be judged.

At the very least, systematic study of the empirical and cognitive underpinning of value judgment would be highly beneficial. More importantly, if the historical consequences of applying particular value standards to given situations could be determined, some basis for approving or disapproving the standards might be found. Here, clarification is essential. The man who will not budge from a set of known standards can still be attacked. Only the man who refuses to state or apply his standards is beyond criticism; if man could preserve perfect silence he would be ethically inviolable—and completely irrelevant. Men are forced to act and their actions imply their standards, however imperfectly. As in explanation, it is difficult to determine the standard by examining a single case in isolation, knowing nothing of the actor and his beliefs and other actions. But over time, given multiple observations and more information, ambiguities tend to cancel and standards emerge with increasing clarity. That opens the way for testing and criticism. The root of the process is a comparison of what might have occurred and what did occur. The first step in reasoned criticism is to expose that root.

Perhaps the most difficult part of normative discussion is learning to cope with the feeling of inadequacy and

incompleteness generated by tautological structures and circular processes for those accustomed to believe that man's intellectual efforts are founded on solid ground. The error does not lie in the assumption of circularity; man can produce nothing better. Man begins his inquiries where he finds himself, and proceeds to go round in circles, weaving a web of ever increasing complexity, and in the process, as Professor Long points out in his prefatory note, producing better hammers and better value judgments. It would be perverse to underestimate the magnitude of the normative problem. But it would be even worse to demand an instrument that man neither needs nor can produce. Ridiculous or impossible standards open the door to quacks and knaves and charlatans; honest men cannot pretend to meet such criteria. Man can survive, and improve his lot, by creating instruments of the kind I have been describing. The instrument lies within his capacity. Testing, criticism, and improvement of the instrument is also possible. The historical evidence seems clear. Men do act, and the crux of the argument is that by acting men create precisely the sort of instrument described here. Over time, those instruments have been and can be improved. The problem is to systematize the process, identify the standards and learn how to criticize them, and begin cumulating defensible knowledge about the normative dimensions of human behavior. It does not make ethics any less noble to make it a human creation, nor any less tolerant and humane to make it, as far as possible, a rational enterprise. To the contrary, those times in human history when rationality has been decried, evidence spurned, and calculation subordinated to the outpourings of the viscera are notable for their cruelty and wanton waste. The Romantic imagery of the nineteenth century has been accepted too long; the data of

history tell another story. Given a choice between life in a modern, highly rationalized society and an oriental despotism or medieval manor, few persons except the despot and the lord of the manor would willingly choose the latter, given full knowledge of what they were choosing. Some few moderns might just as well live in the Middle Ages, perhaps, but for the vast majority of those who live in the modern bureaucratic state that is decidedly not the case.

THE EMPIRICAL BASE

Discussion of the instruments and processes needed to make and justify value judgments should begin with a concrete empirical situation in which a choice can or must be made. While it is true that significant situations could not be identified without a prior ethical structure to call attention to what is normatively significant, focusing on the empirical situation underscores the fact that ethics cannot be discussed in general terms or created in a vacuum; ethical standards and principles emerge from and are justified by reference to concrete decisions and not the converse. The priority of the situation over the principle has long since been obscured by history. But ethical standards and principles and scientific laws and theories are extended, modified, and corrected in precisely the same way and for many of the same reasons. The analogy is to repairing a ship at sea. Without a ship, there is nothing to repair; if the ship is allowed to sink, the enterprise cannot readily be renewed. In a very useful way, the chain of intellectual transmission follows the same rules as the genetic transmission of living cells from one generation to the next. Let the chain break and it cannot again be restored.

The goal of ethical inquiry, then, is a set of standards that will suffice for the decisions that man can and must make. And the purposes that ethical standards derive from and are meant to achieve emerge somehow from man's attempts to deal with the environment. If little can be said about the origins of such principles and standards, that is much less important than maintaining some capacity to correct, expand, modify, and refine what has been created. If value judgment begins with a concrete problem, the standards needed to deal with it may already be available, or they may have to be created, in exactly the same sense that the search for an explanation begins with a phenomenon for which there may or may not be an explanation available. And the process of making a specific value judgment, like the explanation of a phenomenon, should be viewed as a test for the normative standard being applied. The ideal is a continuous interaction between the standards and principles that make up the ethical structure and the results obtained from applying those standards to concrete situations. A regular, coherent and conscious testing program can eliminate deadwood (standards that have no useful applications), clarify ambiguities, resolve conflicts or contradictions (or at least expose them), identify the uses and limitations of accepted standards, identify new dimensions of human existence that normative calculations should consider, and locate gaps in the existing value structure that allow unwholesome situations to appear in society without attracting attention or concerted action to eliminate them. An ethic must fit current needs; its contents must be consistent, though they need not be formal derivatives of a single set of axioms. Finally, and what is most important in this context, concentrating on the empirical situation would lead us to abandon the notion that

ethical inquiry can somehow be divorced from the empirical world, can become a spectator sport for academics. Value judgment, as here defined, is a central and essential part of human life. The need to begin systematic efforts to identify and correct the normative heritage is independent of the findings of philosophers, and too vital to be left to chance action by social scientists.

Constraints and limitations

Since value judgments are made in concrete situations, there are always constraints and limitations on choice that the actor cannot avoid. Perhaps the most significant of these limits are the consequences of scarcity. The resources that man must have to pursue his individual and social goals, material and nonmaterial, are in many and even most cases in short supply. Cost, measured in terms of resources, is a factor in every choice—if only in the form of lost opportunities. No amount of technological or scientific advance will alter the situation very much: scarcity, which supplies the rationale for the search for a reasoned basis for choice, cannot be eliminated. If all resources were in all cases available in unlimited amounts (unthinkable because of such things as time and energy which are finite and nonextensible), there would be no need for value judgments of the kind discussed here—no choices would have to be made. No human society, now or in the future, will ever meet those conditions; not everyone can have everything he or she desires. The character of the value problem will change as the kinds of scarcities change and human desire and capacity alters, but it cannot disappear. Even a population that wanted only what it could have would not solve the problem.

Resource limitations serve to reduce the area of choice open to the actor in any situation, particularly if the actor's choices influence large segments of the population and are therefore very costly. In effect, only a very small part of the total human situation can be taken seriously in normative terms at any one time and place—a point for which we may have reason to give thanks, considering the situation that would obtain if everything or nothing had normative significance. Even at the level of interpersonal relations, where such resources as love and affection are seemingly unlimited, relatively large parts of the sum of personal interactions must be ignored or dealt with through habit, else an unbearable strain is placed on the nervous system—imagine a prolonged visit with hostile relatives, strangers in thought and action, who never slept. The principal need, at both the personal and social level of value judgment, is for a system of priorities rather than a laundry list of variables that could have normative significance. In an odd way, resource limitations serve to simplify the value problem by placing large areas of human life beyond reach, too expensive or utterly impossible to influence. Even in the latter part of the twentieth century, social criticism in most parts of the world will continue to focus on the primary factors relating to brute survival simply because man's capacity does not extend very far beyond such matters when the frame of reference is the whole of mankind and the problem is taken seriously, that is, when action rather than conversation is intended. Sheer physical survival, good health, adequate food, the rudiments of an education; they are and will remain the primary social goals of most of humanity for some time. At the individual level, of course, the problems of ethics are much more complex and the possibilities more sophisticated. Otherwise, ethics

might be a crashing bore, a simple problem in survival engineering.

Most of the really interesting normative problems arise in rich societies. The rich, by definition, have a capacity to affect the lives of others that is greater than the capacity of the poor. In a poor society, the order of priorities is usually easy to decide because the variables relate to material wellbeing and physical conditions and in these areas we have a relevant, accurate and dependable technology to supply standards. When society is *very* poor, the ethical problems grow more serious and can be very nasty. For example, if the ratio of resources to population falls below what is needed to maintain life for everyone, equitable distribution could be a disaster and maldistribution may be defended on rational grounds. Worse, the cost of mobilizing and distributing resources, and the cost of equity, is greatly increased when society is very poor. The tendency in such cases is to "let nature take its course." But if starvation occurs at random, its consequences may be improved by human intervention; only an outmoded tradition and an understandable human unwillingness to make deadly choices inhibits attempts to achieve a more acceptable outcome. It is all very well to prate against "playing God." If the choice lies between saving n persons by playing God and saving none, then God must be played, and to the hilt. Pareto optimality, the condition in which any change or modification of the existing distribution of goods within society would increase or create inequities is a mathematical ideal and not an observed social fact. It is an appropriate assumption only when society can dispose all of the resources needed to meet the basic needs of the population (in terms of which present distribution is optimal) without exception.

Resource limitations generate difficult normative decisions for wealthy society as well as for poor though such problems tend to be evaded rather than taken seriously even at the level of basic physical welfare. How are long-range benefits to be balanced against short-run costs? To what extent can the present generations be sacrificed to the future? To what extent can one part of the population be deprived to supply the good life for the rest? The conflict between reasoned judgment and the pressures of sentiment, tradition, ideology, and vested interest is much heightened by scarcity, real and imagined. Wishful thinking, vicarious satisfaction through ritual observance, or accepted folk wisdom can provide working "solutions" to such problems so long as real costs (alternatives) are not calculated. When the old are sacrificed to the young as a matter of principle, without examining the particular case, the act of sacrifice may doom the very persons it was intended to save. And behind all such questions lurks the really fundamental problem: How can a form of social organization be developed that would be accepted and acceptable as a legitimate source of judgment in deadly cases? What procedures would it follow? What purposes would it pursue? We need to exert our rational capacity to its limits, but recognize and respect those limits as well. Lotteries may be needed when rational distribution of available resources would lead to preposterous results. Rational choice may prescribe ritual celebration of the norms, particularly when the ritual is less costly than a potlatch. To label such recommendations "Machiavellian" is to pay tribute to Machiavelli but to say nothing of their defensibility.

In sum, scarcity has the effect of emphasizing the differences that appear in the moral thrust of individual and society, in the capacity of man and society to mobilize

and employ resources for a variety of human purposes. For the individual, it is very difficult to rise much above the level of everyday morality without the fanaticism of a Calvin or a Martin Luther King, and few men hold their values so strongly, and value their own lives so little. For society as a whole, few values are so strongly held that the society's capacity to mobilize men and resources is drastically increased when those issues are at stake, and most of them relate to war, calamity and disaster. Even with respect to war, scarcity is a great anesthetic and to that extent it amoralizes man. Men learn to ignore what they cannot change; it inhibits insanity. What is needed is a set of procedures that will enforce a realistic assessment of capacity and costs and mediate between the extreme forms of optimism and fatalism. The poor may not be with us always, but they are likely to be around for some time; man may indeed destroy his own species without intending to do so. With regard to too many important matters, men are too readily convinced, too poor at criticism, too prone to act without calculation. To attempt the impossible is merely silly if the impossible is correctly identified. Belief that the impossible should be attempted stems from an earlier era when knowledge was limited and statements about empirical possibility were liable to considerable error. In a world well supplied with knowledge, such crude procedures are neither desirable nor necessary.

Today, as always in recorded history, the rich command the power and skills needed to force a more equitable distribution of the world's resources, both within and among nations. That is what being rich means. And throughout history, the most succinct, accurate summary of the principles of resource distribution has been "Them as has, gets!" So it remains today. Yet access to a better life seems

likely to be opened to all of mankind in the long run if only because the more numerous poor have the power, whatever their legal rights, to make the lives of the powerful unbearable, if they are sufficiently reckless. And the poor are coming to realize their strength. Given the general improvement and refinement of social ethics in the past century, in rhetoric if not in practice, normative blackmail can be increasingly successful, since men who are not desperate are usually liable to be victimized by their own rhetorical commitments. The merciless butcher cannot be blackmailed; the slightly moral ruler is more amenable to pressure. Whether the rhetoric of opposition will rule out the kind of gradualism needed to take advantage of mild improvements in the moral climate is, of course, another matter.

NORMATIVE INSTRUMENTS

Reasoned choice requires standards and principles, rules expressing preferences for different values of common sets of normative variables. In general terms, every person has an ethic, a collection of assumptions and purposes, standards and principles derived from them, and calculi or value systems for applying them. That ethic is used, consistently or inconsistently, explicitly or implicitly, to guide the individual's behavior. The quality of personal ethics varies enormously. In most cases, they seem to be a hodgepodge of conflicting and incompatible precepts and rules, though that is a question for empirical inquiry. Whatever the specific content of an ethic, it will consist in the same set of instruments and be open to the same kinds of tests, as any other. The two major tests, of course, are internal consistency and freedom from ambiguity. Neither contradiction

nor ambiguity can be tolerated, because they rule out all possibility of calculation and therefore of reasoned judgment. To hold a principle is to hold or agree with all of its implications and derivations. A standard that is ambiguous cannot be "accepted" or established, because there is no way to determine its meaning or its quality; if the implications of one principle are incompatible with the implications of another, to "accept" both would be a contradiction in terms. One cannot "choose" an unknown in any meaningful sense of the term. Traditional philosophers often manage to avoid the problem of creating unambiguous and logically compatible ethical structures by concentrating on the meaning or desirability of isolated principles or by divorcing ethical principles and standards from their applications. Neither tactic is acceptable, and where either occurs, the usefulness of generalized discussions of ethics is, for the most part, lost. Normative judgment must be carried on in terms of clusters of standards and principles, not isolated precepts, because the empirical world generates situations that require complex structures of that kind, situations that cannot be treated adequately by the use of single-variable ethics.

Assumptions, purposes, and principles

Although ethical judgments "begin" with a concrete empirical situation, and ethical standards are created to cope with specific empirical situations, the problems of choice require an accepted set of standards, an identifiable collection of normative variables, otherwise there would be no "normative" dimension to observation that would attract attention to moral questions. Beyond the standards that make up the *content* of an ethic lie the purposes and

assumptions that are *fulfilled* by the ethic. Another stopping point is needed in the closed circle of relations that comprise normative discussion. Given a purpose, a set of instruments can be created for achieving it in a variety of situations. But the purpose itself is created by man, generated out of the need to act and some awareness of what can be achieved by acting. Purposes are in one sense justified by their consequences, or more precisely by comparing the consequences that follow from accepting them with the consequences that follow from accepting others. As a first step, then, the purposes on which an ethic is predicated should be made clear. As an ethic develops, the purposes that it embodies are gradually clarified and amplified. An ethic, briefly, is a reification of purpose.

At this point, the methodological bias of the essay has some consequences for the course of argument that I would like to emphasize briefly if only to avoid being accused of failing to perform as promised. The goal of the discussion is to spell out the structures and processes that are needed to bring normative discussion and choice under rational control. I do not pretend to know the substantive purposes that mankind should pursue through its ethical structures; indeed, I would argue that no single statement of those purposes is possible. It is clear, speaking methodologically, that an ethic cannot be created without assuming a set of purposes. I have argued earlier that those purposes must be stated in terms of the impact of human choice on human life, that if anything has value for man it must be human life—*reductio ad absurdum*. An essential corollary to that line of reasoning is that one human life has the same value as another; in a limited sense, the particular attributes of the individual are irrelevant. For example, if an accepted human purpose is avoiding unnecessary pain and anguish,

then a choice that leads to unnecessary pain is improper, other things equal, whatever the identity of the person who suffers. The point being made here is not the point made earlier to the effect that the influence of those attributes that "buffer" the impact of change on the individual must be part of the normative variable. Life is equal at the point where impact occurs. The buffers modify the impact at that point, and in fact differences in the amount of insulation shielding the individual from environmental change is a good indicator of the different conditions of life of particular persons.

A well-developed ethic will be built around a central core of purposes, assumptions, postulates or principles that can serve as a yardstick for judging the acceptability of other proposed principles or purposes. Any principle or standard, once accepted, limits the acceptability of other principles, given the rule of contradiction. When principles conflict one or another must give way. The value structure, like our capacity to explain, grows by accretion around a hard core of reconcilable principles to which other principles must bow when there is conflict, or more precisely, to which other principles have in the past given way in cases of conflict. It seems unlikely that the number of these basic axioms can be very large since generality tends to increase ambiguity and uncertainty and they are undesirable, in ethics as in explanation. But some few fundamentals there must be, and this is an area in which traditional philosophy might be expected to make a major contribution since the exploration of the implications of general principles of ethics has been a major feature of normative writing throughout history. At the very least, moral philosophy could suggest areas where empirical exploration is needed, concepts that might be used for normative

comparisons, and principles that could be tested in empirical situations. Of course, if moral philosophy is to prove useful, it must be taken seriously and not treated merely as prestigious literature. Its recommendations for society need to be taken literally, peeling away the obscuring and sometimes obscurantist layers of "interpretation" that have accreted on them. There is no reason to suppose that the classic moral philosophers did not wish to be taken seriously in this fashion, nor that they will suffer when examined for relevance. But the whole history of philosophy serves to illustrate the futility of dealing with normative problems in wholly general terms and if some part of moral philosophy must perish in order to produce useful remnants, a patch that renders a pair of trousers wearable seems more desirable than a whole suit of clothes that man can use only in his bier.

It may be said in reply, and often has been said, that traditional philosophy has obvious empirical relevance because its concepts refer to the environment in terms that are recognizable. The point is, however, that what may vaguely be called "empirical relevance" is in fact not enough; ethical standards and principles must be applicable to specific situations, and the problems of ethics must be defined and solved in terms of sets of structured variables that can be identified in the environment accurately and readily. It would be pointless to insist on dealing with ethical questions in the way that tradition requires if the results of doing so would serve no human purpose beyond prestigious advertising, and perhaps promotion, for academics. And it would be equally improper to refuse to deal with concrete problems because they do not fit into traditional concepts of what is suitable grist for the philosopher's mill if there were good reasons to suppose them important problems.

However much the social critic might wish to see particular situations eliminated from society, the fact that the situation arises is binding on normative judgment—an acceptable ethic should deal with them. It is both futile and exasperating to answer a young woman seeking advice on how best to deal with her illegitimate child with a lengthy sermon on the evils of premarital intercourse. And it would be criminally improper to refuse to consider her problem because it originated in an action considered morally reprehensible—the doctrine of original sin effectively eliminates all hope of dealing intelligently with current problems. To strip away relevant aspects of an empirical situation, or to refuse to consider aspects of a situation that arise out of particular contexts, is to distort the function of value judgment most unacceptably. Standards and principles must be rooted in context, derived from concrete and recurrent situations, and not “generally” relevant to the empirical world or to questions of choice.

An example of the contextuality of ethics may illustrate the point more clearly. Suppose that a number of badly injured persons is brought into the emergency room of an American hospital. The purpose normally pursued in this situation (which unfortunately recurs only too often) is to save as many lives as possible. On this principle, and in this situation, the standards used to choose the course of action are well known: the badly injured are treated first, the lightly injured are given summary first aid pending adequate treatment of the others. Given the purpose and the situation, the standards are rational. But if the same set of injuries appeared in the sick bay of a battleship engaged in action against the enemy, even though the injured men are “the same,” and the same principle (maximize the saving of lives) is accepted, the standard of treatment might be

quite different. To save lives on a battleship, an intervening variable (winning the battle, saving the ship) must be considered when the situation is being evaluated and alternatives weighted. *If* the best way to save lives is to win the battle, and *if* winning the battle requires maximum efficiency from the fighting crew, then rationality may demand that the ship's medics treat the lightly wounded first, returning them to battle, holding the seriously wounded with minimal treatment pending a more opportune time—and that set of standards, I am told, actually is applied in such situations. However distasteful the notion of wars and killing, that cannot be allowed to prevent the development of an appropriate set of standards for a battlefield situation if man must cope with it. To refuse to deal with the situation, or even to insist that the standards used in the civilian hospital should be applied so long as “the same” situation (defined in terms of the injured men) appears, could be catastrophic. For the procedures followed in the hospital *could* be counterproductive aboard ship, even though the same purpose or goal was being served in each case.

Put in another way, the need for an ethic of situations implies the rejection of absolute or unlimited ethical principles. A major form of ethical clarification, badly needed at present, is a specification of the conditions in which a particular standard or principle holds, just as a major problem in explanation is to explicate the situations in which the expectations generated by a particular explanation or theory can be entertained with confidence. Almost any standard or principle can be applied to *some* situation, but the fact that a standard *can* be applied does not mean that it *should* be applied. The rule, “Choose to please your own taste,” to take a common example, is a good basis for choice in an ice cream parlor (unless personal preference is

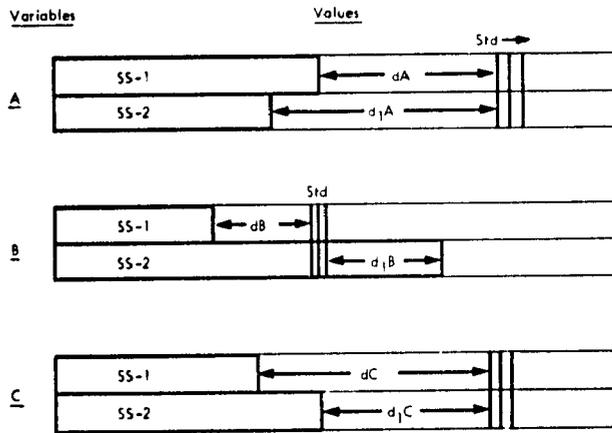
likely to lead to serious gastric disorders) but a very poor standard for driving on a crowded road at high speeds. A calculus that applies a set of standards to a situation will hold for that situation every time it occurs so long as the actor continues to hold the same standards. The main problem is identification of the situation. In fact, once a calculus has been developed for applying a standard, it operates automatically once the appropriate situation is identified (as Ohm's law applies to situations in which the phenomena are electrical) without regard to the person making the choice. In that sense, situational ethics eliminates the difference between public and private persons, though public officials may have to deal with situations that private citizens rarely if ever encounter.

What differences make a difference? For whom?

The two basic elements in an ethic, obviously, are the set of normative variables used to stipulate the purposes that choice should seek to attain and the standards that are applied to them, individually and in combination. There is no way to specify a complete laundry list of normative variables in advance, but the problem can be structured in a way that first, clarifies the considerations that are relevant to the selection and second, suggests a way of locating and justifying the normative variables that may prove useful. It depends on the fact that any empirical description can be said to consist of a set of variables whose values are established by observation. While no description of the empirical world is complete, every description can be exhausted, analytically, by stating the values of the variables it includes. It follows that the outcomes generated by the explanatory system that projects the

system-states from which choices are made can also be exhausted analytically by specifying the relevant variables and their values. Value judgment, or normative choice, can therefore be reduced to statements about the relative desirability of different sets of values for a common set of variables. A simplified illustration of this way of conceptualizing choice is found in Figure 5-1. The explanatory system can take two different system-states, each containing three normative variables. The values of the normative variables are indicated by horizontal distance from left to right. The actor must choose one set of values or the other for those three variables.

FIGURE 5-1
Choice as the Reduction of Differences



Std: Standard for each variable.
 SS-1: System-state 1.
 SS-2: System-state 2.

The figure applies to one class of persons only.

The standard, or preferred value, for each normative variable is indicated by the three vertical lines on Figure 5-1. The value of each variable, as projected by the explanation, differs from the standard by a measurable amount that may be either positive or negative (shown as dA , d_1A , dB , and so on). In effect, choosing a system-state will result in either an increase or a decrease in the difference between the projected values of the variables and their desired values as indicated by the standards. The relation shown in the figure applies to a single class of persons; if there is more than one class in the situation (defined by differential impact) another chart would be needed for each class. The classes would then have to be brought together in a single structure.

The basic reason for posing the problem of choice in these terms is that it allows us to relate the standards used to choose values for individual variables or for alternative variables to conditions that can be observed in society. For any normative variable, it is likely that a range of values will already have been achieved somewhere in society. That provides an opportunity to examine the consequences of using different values as the standard, including the subjective consequences for the individual concerned; thus it provides evidence that can be used in argument for or against suggested standards. Moreover, empirical observation can then become an important source of standards; observed differences among men are potential points of normative criticism. In effect, value judgment can be defined in terms of increasing or decreasing observed differences among men. Projected distinctions among men are retained as a check on the ethical structure, of course, and to avoid the possibility of a world of slaves. But the practical significance of standards that have nowhere been

attained or even approached is likely to be slight. Choices, in this context, are devices for increasing or reducing the differences between men as they are and men as they can be (in the empirical and not the normative sense of the term). The lives of the fortunate can serve as an illustration of a standard-in-action and as a source of standards. As a first approximation, this approach to choice suggests that observation of the differences that actually appear in society, and attempting to evaluate their impact on the individuals concerned, would be a useful step toward the development of a set of adequate and reasonably defensible normative standards. The history of a human life provides the best possible illustration of the consequences of applying particular principles to a particular situation. A careful study of the public and private dimensions of human lives that vary in different respects should help to suggest the desirable and undesirable aspects of life in a way that no amount of abstract calculation could hope to match.

A further advantage of structuring the problem of choice in terms of differences that make a difference is that it calls attention to the way in which differences among men are actually increased or reduced. In any empirical situation, the values of some of the normative variables will exceed optimal standards while others fall below desired levels. Difference reduction is not simply a matter of increasing or decreasing the values of particular variables for a given class of persons. In practice, there are three different modes of difference reduction that can be used: (1) *A* is held constant while *B* is increased; (2) *A* is increased while *B* is reduced concurrently; and (3) *A* is increased rapidly while *B* is increased slowly. Both the amount of change in value, and the rate of change, are significant. While time changes are usually collapsed in explanations

or projections, either the rate of change or elapsed time should be included in the calculation of future outcomes when choices are made. The man at death's door may be delighted to hear that the attending physician has projected a situation in which his health is perfect but horrified to learn that recovery will take ten years and is contingent on his surviving the first year. And not every mode of difference reduction is appropriate to every situation. Mode (2), for example, cannot be applied to education because there is no known way to "deeducate" the educated. In most societies, however, mode (2) is usually ruled out when distribution is at stake, leading not infrequently to tokenism that is neither necessary nor justified. The question how much difference reduction can be achieved, and how rapidly, is empirical and not normative. The question what mode of reduction is employed, and what rate of change actually follows, is normative. The mode, in other words, has its own consequences, quite apart from the content given the mode by the particular decision which it embodies. Time, rate, and configuration are important considerations when the consequences of change are being examined.

In any concrete situation, choice serves to increase or decrease the differences between man and man. Which of those differences are significant? What order of priorities should be attached to observed or projected differences? What level of differences, in which variables, can be acted upon or ignored? What, in sum, are the concepts that can be used to measure the impact of man on man? Here, more than anywhere else in the field, the poverty of the philosophic tradition is most abundantly clear. For the normative variables or concepts that are traditionally and currently employed in discussion of normative questions

are almost without exception inadequate for our purposes. Neither the lengthy discussions of freedom, equality, justice, democracy, or liberty found in social philosophy, nor the equally broad treatments of good, right, ends, means, and such odd notions as "free will" found in moral philosophy is very helpful for the social critic. Taken as a class, such concepts are vague, ambiguous, difficult or impossible to operationalize, useless as a guide to empirical choice. Indeed, they have rarely been tied directly to the quality of human life in the sense that the desirable human conditions to be achieved by implementing suggested normative principles is spelled out in concrete terms. Recent social critics sometimes have the virtue of protesting against ills and evils that are fairly well defined and easy to observe, though there is perhaps too much reliance on vague psychological conceptions (identity, repression, or the ubiquitous alienation, for example) and too much use of organizational and institutional conceptions that are divorced from individual life (two-party systems, constitutionalism, power elites, and so on). Relevant criticism is an improvement over abstract formalism but it too can be vitiated by conceptual inadequacy and lack of concern for human capacities and limitations.

Whatever the reason, the fact is that our normative vocabulary simply does not provide the kinds of concepts that are needed to give an adequate account of the differences in the quality of life of a rude and ignorant savage and an educated and fortunate citizen of a large industrial society. Note that the very terms used to sketch the situation suggest the inadequacy of the concepts available for dealing with the normative dimensions of human life. For the most part, social sciences make use of value concepts that refer to economic survival or economic accomplish-

ment, or to legal rights (usually requiring economic power to acquire and use) and political machinery. Terms that refer directly to the life of the individual are scarce. And the connection between social policy and life quality is rarely drawn, particularly for the unfortunate. The one major conceptual innovation in the twentieth century has been the introduction of a psychic dimension into our notion of an adequate human existence, and if the concepts that psychiatry and psychology have spawned tend to be heuristically rather than analytically or empirically useful, they have nevertheless illuminated an area of life that will have to be taken into account in any future ethic. In that sense they serve as a useful antidote to a legalistic ethic more concerned with retribution and punishment than with the positive dimensions of a good life.

The quality of the conceptual apparatus used in value judgment could be improved very rapidly, first by dealing seriously with the suggestions already contained in literature, history and philosophy, and second by systematic exploration of the implications of the conceptualization of ethical problems adopted here. The concepts that are needed will deal with differences among men, and some of the more significant of these differences are almost painfully obvious. There are differences in access to all kinds of resources, not merely in access to economic and political power. Access to culture, for example, awareness of what man has been able to create for the amusement and edification and instruction of himself and others, is often independent of wealth or even formal education. There are enormous differences in man's capacity to make intelligent use of resources, granted access. Differences in the human genetic endowment need also to be taken into consideration when social policy is being considered, for if men are in different degrees provided with an opportunity to unfold

their latent capacities they are also in different degrees endowed with latent capacity, and those differences should be respected and included in our calculations. At another level, men differ in their capacity to find enjoyment in leisure, in their capacity for self-satisfaction without smugness, and in other related ways. All such matters are in some sense grist for the moral philosopher's mill.

What is needed, obviously, is an ethical structure that can direct the unfolding and exploitation of human capacity without idealizing an unrewarding second childhood or retreating fearfully into a sterile and repressive reaction. The concepts used in value judgment should be appropriate to that goal. It may be, of course, that the recent expansion of man's capacity to modify the environment, and thus to improve or debilitate the human condition, has caught mankind in general and philosophy in particular unawares, that a period of readjustment is needed. Government, as an institution, and the academic world as well, have acquired a degree of currency and relevancy, potentially at least, that is rare in human history. They may now have a significant impact, directly or indirectly, on enormous masses of men. Whether they can adjust rapidly and successfully to the new circumstances remains to be seen, but the need to explore the instruments and processes needed to make the adjustment as fully as possible is undeniable, and in fact time may be short. For the social processes that make possible great changes in ethical premises and institutional arrangements also conduce to a massive consolidation of the existing order that could produce an impasse only a major social upheaval could break. The break with tradition inaugurated in primitive Christianity could have led to a far different world order than in fact turned out to be the case.

One final point. For each normative variable, both a

class of persons and a set of indicator variables must be supplied. By implication, the question "What differences make a difference?" contains the further query, "For whom?" The absolute amount of difference that can be introduced into a situation may be much less significant than the class of persons for whom the difference is relevant. In our schema for treating the normative variables (Chapter Four) the distinction appears very clearly because changes are projected separately for each class of persons and each system-state (see pp. 98-104). Each class of persons is defined by a set of attributes or buffers; the buffers, taken in conjunction with changes in the values of the indicator variables, produce a measure of the impact of choice on that class of persons. Normative standards must be stated in the same terms. The range of values included in a standard will be relevant to both the attribute variables and the indicators. The crucial point here is that change is not equivalent to impact. The amount of impact on a human life generated by a particular change in the environment is measured by reference to the magnitude of the change and the defining characteristics of the class affected by it. Those who are directly affected by changes tend to blur the distinction, understandably, but analytic separation of change and impact is absolutely essential for our purposes. The man who loses his job after an election is likely to identify the change (loss of office) with its impact on his family and fortunes (catastrophe) and to assume that the impact of the change can be generalized, that is, to say "the election was a catastrophe" without adding, as he should, "for me." Such assessments may be either positive or negative, but the error is the same in both cases, witness the once-famous assertion of an American Cabinet member to the effect that, "What's good for General Motors is good for the United States."

Standards and purposes

Normative standards serve to connect human purposes to specific acts or choices, linking the values of the normative variables in a situation that can be altered by human choice to the purposes that choice is expected to serve. Both concepts are analytic. Standards in ethics serve precisely the same function as the engineering standards that link the purposes for which a hammer is to be used to a set of specifications regarding the size, strength, weight, shape, and so on, of the hammer. Standards are therefore contingent on purposes. The purposes themselves arise out of the interaction of man and environment; they are a selection from among the aims or goals that man can fulfill by his actions. There are no formal procedures for establishing standards or for proposing human purposes and goals. Empirically, standards and purposes may come from self-examination or introspection, from the study of others, from emotional or intellectual projection and reconstruction, or from simple inculcation or conditioning by family or other social institution. The feeling that a particular value of a normative variable would be personally distasteful or horrifying is doubtless an important part of any ethical justification. On the other hand, there will also be an element of calculation, perhaps an inferential projection of consequences, or an imaginary instantiation of the results to be expected from the application of given principles or axioms of behavior. The evidence that history provides of the consequences of applying given standards to specific situations will be influential. Examination of the extent to which particular changes in the values of the attribute variables of different classes of individuals is likely to facilitate or impede the fulfillment of individual

potential should also play a part in certain classes of ethical decisions or in the development of some ethical standards and purposes. Standards will depend on the kinds of ethical purposes with which the individual begins, on the conception of what human life can be like for different people, on some beliefs or feelings about the relative desirability of the different sets of circumstances that a human life can experience. Obviously, personal awareness or knowledge of the varieties of human experience will be an important factor in the kinds of alternatives that the individual examines or takes into consideration in developing his own ethic.

From the point of view of the critic, rational and systematic examination of the history and sociology of values ought to serve as the basic source of evidence for or against particular standards or normative purposes. Since no man can wholly escape his heritage, the influence of the socialization process, and so on, there is also good reason to seek to incorporate into the education of every individual the procedures and awareness needed to modify and test ethical standards and purposes through application or experience. Man cannot possibly live without an ethic; every person has one. But the quality of ethics varies enormously and the most urgent need in the field is to improve the quality of the normative structures that man brings to his environment. Perhaps the most important point to emerge from this essay is the extent to which value judgments are amenable to rational-empirical criticism, to test and amendment. Given the same tentative and undogmatic approach to value judgment that characterizes empirical research at its best, the quality of normative argument can be improved enormously. The approach to value judgment advocated here will not solve all of man's normative problems, but it can limit normative disagreement to known points, fixed in a stable background. Granting that points of dif-

ference may remain despite our best efforts, it does not follow that there are no points of agreement that can serve as a base point for exploring normative structures more fully. The need to identify and broaden such areas of reasoned agreement, to create islands of rationality in a sea of vagueness peopled by the offspring of folklore, tradition, and magic could hardly be greater. I have tried to suggest the means by which the goal can be accomplished, the structures and processes that would be needed to maximize the rational-empirical element in value judgment, to harvest for man the fullest possible measure of benefit from his skill at cognizing and ordering information.

The fact is that the kinds of considerations that are relevant to judging the importance of the differences among men are not so uncertain and obscure that man is helpless and agreement is entirely out of the question on all points. Every man is a body of capacity, potential, and achievement; few argue against allowing and even assisting each person to maximize his inheritance. Men clearly must learn to act with awareness of one another and in active cooperation, to give and to take, to indulge the self and to delay gratification. Men must have access to resources and to culture, and the awareness and capacity to derive from them as much as possible and to contribute to them so far as they are able and willing. Resources without capacity leads only to Veblen's conspicuous waste or the banalities of the ignorant millionaire; capacity without resources may well be the condition of maximum frustration for man. The needs of the body, the mind, the emotions, and the spirit are not obscure though they may vary; they must be matched against capacity and capacity in turn should be developed with an eye to human needs. Man can become a moral creature to the extent that the meaning of moral is rooted in human capacity and potential; man

becomes moral by translating human possibilities into environmental conditions, making possible a rich and varied life experience that can be created without reservation and enjoyed with the confidence that is born of knowledge, and of awareness of the quality of one's own thinking. Man must live in a world that is partly his own creation, partly beyond control. The elimination of normatively invidious distinctions and biases need not imply a mindless search for identity. Each man is born different in some degree from others of his kind and his life is characterized by differentiation from others; only in death are men identical. In the laboratory that is human society, action in carefully identified situations, based on known standards, can generate reasons for differentiating what has hitherto been combined, for modifying expectations previously held; these are the consequences that flow from testing our theories and explanations. In the normative realm, experience can lead men to avoid what has previously been considered desirable and embrace what has earlier been proscribed. In most cases, such normative modifications seem to arise from changes in the cognitive capacity of individual or society and not from direct and simple improvements in the normative structure. That accords well with our approach to value judgment. Ethics are one element of the set of intellectual constructions that man requires to live. As the meaning of "live" is expanded and modified, mainly if not entirely through accretions in the store of human knowledge, the character of the instruments that are required to fulfill the purposes of value judgment will also change and expand.

Of man's ability to criticize, modify, and improve his value standards we need have no doubt. In many respects, the instruments and processes needed for criticism are the same for both explanation and evaluation. And the tools

needed to implement normative judgments are also available, though one might wish that social technology could remain more in step with material technology. Social jurisdictions can be created, expanded, modified, and curtailed; man's capacity to mobilize the resources needed to create a world in which his life will be of a better quality improves steadily. The task of legitimating social intervention in individual affairs without recourse to violence proceeds more slowly, though the results of the changes made in the last few decades are heartening. The problem in social criticism is to agree on a conception of the enterprise that will emphasize the close relation between social policy and human needs, between social science and ethics. Then we may expect the kind of systematic probing and experimenting that is needed if we are to place normative recommendations on defensible grounds and incorporate the results of normative inquiry into the mores, practices, and institutions of society. In ethics, as in explanation, the procedures of inquiry should be designed to maximize learning opportunities and increase the likelihood that knowledge will improve in quality and be stored and transmitted accurately and efficiently. Ethics is the tool by which man gives meaning to life. Social policy is the instrument that translates ethical meaning into meaningful environmental control. Life, to use a metaphor, is a journey with existential, temporal, relational, and a whole host of other dimensions. There is no more to the journey than the journey; neither the point of departure nor the destination are of any great significance. The human enterprise can only be dedicated to improving the quality of the journey. There is nothing more that man can do.

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