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THE PHILOSOPHY OF HENRY GEORGE

THE THEORY OF THE LAND QUESTION

TOWARDS AN OBJECTIVE ETHICS

THE PHILOSOPHY OF JOHN DEWEY
(Contributor)

Philosophy

AND THE

Social Order



AN INTRODUCTORY APPROACH

George R. Geiger
ANTIOCH COLLEGE

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TO

John Dewey

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Preface

This book does not represent an objective approach to philosophy. It expresses a point of view, and attempts to handle a number of philosophical problems from that point of view. The orientation will be distinctly that of instrumentalism and humanism; there is probably nothing in the general argument that will diverge very much from the teaching of John Dewey, to whom I am immeasurably indebted in every possible way (which does not imply, of course, that he or anyone else is to be blamed for whatever inaccuracies or distortions may be discovered here).

Such an orientation seems to suggest that a modern introduction to philosophy must be by way of criticism and method, that philosophical problems should be handled as other problems are handled. This may seem a plausible interpretation, but it clashes immediately with some of the most respectable assumptions in the whole philosophic tradition. To take sides in that clash, as the following pages will, makes complete objectivity impossible. Frankness is necessary, therefore, so that the prospective user of the book will know what to expect.

Some of the material used in the present volume has appeared earlier in different form. To the editors of the *American Journal of Economics and Sociology,* the *Antioch Review,* the *Journal of Philosophy,* and the *Library of Living Philosophers,* acknowledgment must be made for their willingness to have this material appear again. The publishers of the books mentioned in the footnotes must also be thanked for their kind permission to have various passages quoted.

G. R. G.

Yellow Springs, Ohio

PART ONE

Chapter One: Foreword

THE FUNCTION OF PHILOSOPHY

IT WAS WILLIAM JAMES who phrased one of the most poetic descriptions of philosophy when he termed it a name for unanswered questions. The phrasing well suggests a fascination forever attached to the philosophic enterprise, that of considering profound riddles whose solutions are not waiting at the back of the book. But of much more weight in such a description is the implied challenge. For what are the great unanswered questions that today almost shriek for attention? It takes but half an eye to see that the problems of war and peace and revolution, of a depressed ethics and a fumbling education, of political and economic and social reconstruction, are the questions pleading for answer. The failure to answer them is the tragic, and, it may well be, the fatal, indictment of human intelligence. If philosophy is in any significant way a name for unanswered questions, then this is its field.

Up to August 6, 1945, statements like these might have seemed mere rhetoric. Ever since the days of the Hebrew prophets men have been exhorted to solve their moral problems or perish. The familiarity of the charge has bred, if not contempt, at least indifference. But on the day when an atomic bomb first drifted down over a Japanese city, the unanswered questions were given an urgency so frighteningly spectacular that all talk of "mere rhetoric" evaporated. That day may, in Norman Cousins's words, have made modern man obsolete; it did not make obsolete the paralyzing gap man has managed to dig between technology and morals. On the

contrary, it made that gap so wide that men have difficulty looking across it. Modern man himself may now be an anachronism, but his chronic failure to solve the eternal challenge of war and social imbalance has always been anachronistic. His ethical intelligence has lagged far behind his technical competence. Suddenly, now, that lag has become a terrifying handicap in a race for survival.

Mention of the beginning of a new Atomic Age is not a plea for the merger of philosophy and journalism. Philosophy is scarcely a matter of newspaper headlines, ticker tape, or radio bulletins. The problem made incandescent by the release of atomic energy has been a perennial one, as perennial as the mysticism that Aldous Huxley and others have been using recently as an escape. Headlines and international conferences have made an ancient riddle newsworthy: that is all. Even before any talk of atomic destruction, philosophy was confronted by a dilemma as serious as any human enterprise ever faced. If the brutalitarian way of life had emerged triumphant from the war, philosophy would have automatically become meaningless. But if the scheme of life, which, with typical understatement, we call "democratic," survives, philosophy will still be under a cloud unless in some way it has helped to define or to realize that kind of life. If it keeps its hands immaculate — as in some circles it has seemed pathetically eager to do — then philosophy in truth becomes the luxury for the idle, the way of dishonorable retreat. Men must make fundamental choices these days as perhaps they never have made them before. If it is not too late, philosophy must choose along with them.

These few lines should at least indicate the point of view of the present work and some of its basic assumptions. Without for the moment attempting any rigorous description, much less definition, of philosophy, it may be of help to suggest, first, that the fundamental task of all philosophy is that of criticism, the ruthless investigation of man's basic beliefs and postulates. A corollary must be added, however: the assumptions that demand immediate ex-

amination are the broadly ethical ones; that is, those which underlie the values that determine man's life and the social systems that determine his values. There is no "moralistic" reason for this emphasis; the word "demand" is being used, not for purposes of exhortation, but because it seems imposed upon us, imposed by the brutal barrier that exists today between the physical and moral realms, between force and intelligence, between using atomic power to blast man back to the cave or devoting it to establishing forever his mastery over physical nature and over his own economic institutions. To say that unless man can break through that barrier he is through is to be neither sentimental nor profound. It seems bluntly realistic, just ordinary common sense. Man's first order of business is now that of survival, and the margin of time he has at his disposal is perilously narrow.

This reference to the atomic bomb is, again, only a dramatic restatement in modern accents of socio-ethical problems perennially threatening because perennially unsolved. Even in the pre-Atomic Age, in the years before August 6, 1945, political democracy and scientific thinking and ordinary human decency were engaged in a life-and-death struggle to survive. They still are. War and fascism are nowhere dead enough to be buried. But philosophy does not count, or science either, or anything else of worth, in a world where one thinks with one's blood, where economic and political problems are "solved" the way they have been.

Therefore, another assumption belongs to our view of philosophy, and that is a heightened sensitivity to the place of social philosophy. The social emphasis can indeed claim to be an orientation for all philosophic thinking. It can make that claim in two ways. First, as has just been noted, social philosophy is intimately linked with the very genesis of all philosophic effort — the concern with "questions of the most perplexing and significant sort." There are no questions more perplexing or significant than those about human values. A second way in which it can present itself is his-

torical. That is to say, an examination of the history of ideas and, above all, of the development of scientific method should throw a flood of light on the extraordinary insolvency of much of our social thinking. The bankruptcy of great sections of economic and political speculation may indeed be traced to the attitude that regards intelligence as a technique of revelation instead of as an instrument to solve problems. Here is where a living philosophy could perform a mighty task of liaison, *relating the techniques of scientific method to the whole area of human values.*

"A heightened sensitivity to the place of social philosophy" and a "claim to be *an* orientation for all philosophic thinking" are not to be understood as a repudiation of any other approach to philosophy. That would be impudence. The social interpretation is the one that arouses the allegiance of the present work, but an allegiance, however loyal, need not be dogmatic. For example, it will be frankly admitted that this argument for the priority of social problems runs counter to a more familiar interpretation of philosophy. That interpretation, as expressed by Bertrand Russell for one, declares that the unique task of philosophy, indeed of all knowledge, is to concern itself with the "real" world that stretches far beyond the human scene. Philosophy must not be parochial; it must not be circumscribed by man's suburban interests. The very essence of philosophy is to try to understand the non-human world and its (largely mathematical) laws. Without that direction, philosophy descends into a kind of "cosmic impiety."

With such a goal of cosmic comprehension there cannot be the slightest quarrel, particularly since it demands for its realization a unity of philosophy and science. But certainly this can be asked: What about the base from which this onslaught upon the metaphysical universe is to be made? Is not that base the familiar world of human culture and society, the world of economic and political institutions — and of overpowering economic and political and international problems? The point being made here is a very

simple one (it has nothing to do with the more sophisticated argument of "subjectivism"; that is, that the categories of the physical world are themselves a function of man's mental processes, and that therefore philosophy as well as that world must be shot through with the human element). It is merely that philosophy — which, after all, is the product of men, of philosophers — cannot possibly remain unaffected by what goes on in that world of economic struggle and political war, and that it cannot even act as if it were unaffected. If nothing else, philosophers must spend time arguing about and adjusting themselves to war and social dislocation (even going to prison about them as Bertrand Russell himself did). Their ideas, at least their significant ideas, reflect the social world from which no one can escape. At worst, philosophy becomes an apology for a society that cannot handle its troubles. The search for metaphysical enlightenment or for the mathematical logic that will explain the physical universe is a noble and legitimate task for philosophy. Even more noble is the quest for the kind of human world that alone makes philosophy and its various searches — and anything else — possible. The philosopher cannot afford to delegate that quest to someone else; he must do it on his own, if for no other reason than that of self-preservation.

Still another assumption that will help to direct the present approach to philosophy is the acceptance (*a*) of the competence of human intelligence, and (*b*) of the sufficiency of naturalistic explanation. This premise will be developed at length farther on. It may be enough here to say that humanistic naturalism (or scientific humanism) is a philosophic attitude based on belief in man's ability to handle his difficulties through reflective thinking and scientific inquiry. His intelligence is not omnicompetent, and there are terrifying questions that are not yet answered — and possibly may never be. Authentic scientific humanism has no utopian delusions about the difficulties man has to face, especially in the area of values. But it does contend that no other way is open save that

of critical and intelligent inquiry. No other easy short cut will magically appear, no supernatural formula will spring up to solve human problems. Man will meet his difficulties through his intelligence, or he will run away from them.

Thus, philosophy as criticism of the basic assumptions upon which human values rest, philosophy as investigation of those shattering enigmas that are so blithely put aside as "social problems," philosophy as the scrutinizing of scientific method and of naturalistic explanation in order to carry over their successes in some fields into other and more dramatic ones — these are the interests that will provide the major direction for the following pages.

If this still sounds vague, would it help to point out that man's ingenuity has had its greatest success in creation of paradoxes like factories and unemployment, hospitals and war, atom bombs and penicillin, precision tools and mass ignorance, skyscrapers and insanity? Technology *versus* morals were the words used before. If they seem too academic, perhaps "progress and poverty" might be more appropriate. In any case, the disjunction between these two areas of human experience is the great divide for us. Unless our understanding of value — the things we have judged to be worth choosing and therefore precious — and our grasp of the scientific and technical world can be brought together, we are indeed lost. Those experiences are very far apart now. They cannot remain so. The integration of "nature," human or non-human, with the purposes and meanings conceived by man seems to be the great issue, not merely of professional philosophy — which is relatively unimportant — but the great issue of human intelligence itself. Philosophy, however, is particularly concerned with the integration of human experience, and therefore the failure of man to tie together his values and his scientific inteligence must present a peculiar challenge which philosophy cannot overlook.

It would seem necessary, then, to attempt a description of what is implied by "philosophy." What are its general interests and motives, its problems, its aims, and its limits? What about the divisions of the field and the technical terms involved? What are its relations to other human concerns? This type of material, which will occupy approximately the opening half of the book, will thus constitute a brief "introduction to philosophy." It is put first because such material is needed as early as possible by the student to give him background and equipment. Yet it could certainly be argued that the assumptions of the foregoing pages would require philosophy to be approached directly by way of social problems. In these days of atomic bombs and social unrest and renewed international suspicion, there is no lack of dramatic entrances. Nevertheless, it is philosophy rather than social problems to which the student is being introduced (the latter are thrust at him daily and hourly by newspaper and radio), and the classical questions and answers of philosophy still seem to provide the correct etiquette of introduction.

There is another reason for beginning with a more or less traditional exposition. It may help to make clear the proposed twofold orientation of the book: (1) to introduce the student to the general field of philosophy, and (2) at the same time to present him with a critical view of the field. These intentions are by no means incompatible, although keeping them clear is admittedly difficult. Yet it is necessary even in the beginning to be critical as well as elementary, for, as it is used here, "critical" means to have a point of view, to judge; it means that philosophy cannot be regarded as transparent or even colorless, that one cannot honestly be "objective" about it. If these statements seem dogmatic, they may appear less so as we turn to a general examination of the philosophic enterprise.

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Chapter Two

THE PRELIMINARIES

IT IS NOT EASY to predict the answer an average person would give to the question, "What is the chief problem of philosophy?" Two alternative suggestions would probably appear: (*a*) Philosophy has to do with a way of life, with theories that attempt to explain why we are here and to discover what we are to do. It deals with life aims and lasting values. Philosophy, therefore, is ethical in direction, and everyone has some inkling of it, however crude it may be. (*b*) Philosophy is an explanation of the kind of universe in which we live, a theory of the world — how it runs and what it's made of. True, the kind of world revealed by philosophy should have implications for man and his conduct, but essentially the problem is to discover the nature of things. Nature herself rather than human nature is the great philosophic concern.

NATURE OR HUMAN NATURE?

These two interpretations of the primary functions of philosophy are what might be hazarded by the layman if he were asked about it, and such a hypothetical answer would be a plausible one. At least in the history of philosophy, whole eras have been characterized by their emphasis upon one or the other of these two philosophic interests — *nature* or *human nature.* Socrates recognized them, although he himself was a belligerent advocate of only one of them: "When I was young, Cebes, I had a prodigious desire to know that department of philosophy which is called the

investigation of nature; to know the causes of things, and why a thing is and is created or destroyed appeared to me to be a lofty profession. . . . And I went on to examine the things of heaven and earth, and at last I concluded myself to be utterly and absolutely incapable of these inquiries . . . for I want to know not about this, but about myself." [1]

Thus, there would appear to be two sets of philosophic problems. What is the universe really like? Of what is it constituted, and how does it function? Is there a fundamental purpose in things, or do they automatically take care of themselves as does a well-oiled machine? Is the world and all its variety but a surface which hides some fundamental unity, some great connector that ties all things together? What is reality really and truly? For many, these questions constitute the core of philosophic thinking.

For others, the questions should be directed elsewhere. What is the good life? Are men made to be happy? Does man have a soul, and is it mortal, and will it be morally judged? Are human values intimate, eternal, and absolute, or are they sociological and anthropological exhibits? Does my life really have a meaning, and is that meaning discoverable?

It will be seen immediately that, although this is a popular and rather convenient way to divide philosophical questions, and is one that will indeed be used in a rough way as a theme for these opening chapters, the division is much too casual to serve as more than a preliminary setting. A little thought would reveal that there is no possible way for questions in one of these areas to remain detached from those in the other. There is mutual trespass going on all the time. Problems about "the world" have little excitement or relevance unless they make some difference to a human being; conversely, "human nature" is nothing immaculate, insulated or "unworldly." A problem in one field implies problems in another.

Suppose, to take a familiar illustration from William James,

[1] From Plato's *Phaedo*, 96, and *Phaedrus*, 230 (Jowett translation).

that one person believes the world to be nothing but "atoms and the void," whereas another believes it to be the creation of a divine spirit; that one were a "materialist" and the other an "idealist." Would these beliefs be any more than empty verbal statements unless the two individuals find that believing as they do makes some difference, some specific difference, in their outlooks on life, in their emotional commitments, in the way they handle themselves and their personal problems? If there is no difference anywhere in their personal experiences, the philosophic beliefs they might profess about the world would be abstractions as meaningless as they were pompous. From the other side, if someone were to demand from philosophy no more — or no less — than a recipe for happiness, his demand, too, would be meaningless to the point of frustration; for questions about personal happiness inevitably spill over into areas seemingly remote from human nature, into the social and physical worlds where conditions are set which may have much to do with the achievement, or even the possibility, of such a thing as human happiness.

Enough has been said to indicate that, despite the rhetorical convenience of separating "nature" from "human nature" in a beginning approach to philosophy, the separation must not be taken too seriously, or understood as anything more than a plausible way to handle certain large philosophic concerns. The separation does not constitute a dualism. Above all, this mention of nature *or* human nature must not be construed in terms that would oppose one to the other, or line up philosophy against science, or ethics *versus* psychology and sociology, or that would set off human nature as something beyond or outside nature.

GENERAL OR SPECIFIC?

The samples of philosophic questions presented above should lead to another preliminary. Were the average person asked once again for his first response to the word "philosophy," he might

well complain about the broad and general — not to say vague and abstract — character of the subjects that seem to be typically philosophic. What is the universe really like? Is there a God? Is the soul immortal? What is the good life? Happiness? First Cause? These have the flavor of "philosophy," and he is often confused and irritated at the outrageous generalizations that seem to be expected here. This point needs to be considered a little.

We do not wonder that men raise questions about facts. They want to know, for example, how far it is from London to Berlin, or from Berlin to Moscow, or from San Francisco to Tokyo. They want to know what the clocks read in Singapore when it is midnight in Peoria, or how long it will take to read this book. But why should we wonder if men also want to know what is Space, and what is Time — yes, even with the capital letters?

Can we believe as true what we read in the newspapers? How can we really know what is happening on the other side of the moon? These are legitimate questions. Yet just as legitimate, at least from the standpoint of human curiosity, are those slightly more breathless ones, What is Truth? And what is Knowledge? What does it mean to know? And what does it mean to be true? These are indeed pretentious queries, but what else but pretentious is curiosity itself?

Is the last movement of Tschaikovsky's *Pathétique* more beautiful than the *Liebestod?* Is there any means of comparing a beautiful piece of music with a beautiful painting or bit of sculpture, or with a captivating young woman? Again, interesting questions in esthetics, but no more interesting than the meaning of Beauty itself.

Are men better for having read Plato or the Sermon on the Mount? But what is Goodness anyway?

These large questions, questions about the general rather than about the specific, have been the typically philosophic questions. They are inquiries dealing with the principle of a thing, inquiries

directed to anything at all, so long as we are interested in its wider implications, relations, and assumptions. Therefore, the universe itself, man's relation to it and to other men, the concepts of life, consciousness, and cosmic purpose — these have all been the traditional and characteristic concerns of what has been termed philosophy. They represent the farthest extension of generality, they symbolize the abstract interests of men.

This introduction of abstractness may put some readers on their guard. But the point being made here is one which neither praises nor condemns the abstractions that are almost synonymous with philosophy itself. It is intended, instead, to be no more than the recognition of human curiosity, a curiosity not confined to the specific and tangible alone. Perhaps that unrestricted curiosity is an effrontery and a snare. Certainly it has been the source of profound tragedy, dramatic and undramatic. It has been the tragedy of *Faust* (Part I) and of *Prometheus* (Bound). But, tragic or comic, it is there. The temptation to raise large, and even unanswerable, questions is characteristically human — Ivan Karamazov was but "one of those who don't want millions, but an answer to their questions." Philosophy has been one result of this unlimited extension of human questioning.

THE SOURCES OF PHILOSOPHY

Let us assume, then, that the admittedly large and general questions ordinarily recognized as "philosophical" are not the arbitrary invention of a few antique Greek gentlemen many centuries ago. In part, those questions stem from man's wonder, as Plato and Aristotle insisted. In part, they are stimulated by vital and pressing difficulties in all fields. There is even, among other things, a kind of free intellectual play that must be taken into account in tracing the sources of philosophy.

Curiosity

It would be tedious to launch into one more commentary on

human curiosity. The celebration of curiosity is a familiar item in all textbooks. But at least we can recognize that man is the question-asking animal. He must discover the why and the wherefore; he is unhappy until he does. He is curious because he is conscious, because he has a mind, a soul, a highly integrated nervous system — what you will. Whatever its origin, this curiosity is a source of philosophy, as it is in fact of anything that can be labeled theory, or even science. True, glowing curiosity alone will not be sufficient to establish either the scientific or the philosophic enterprise; the stimulus of actual problems and unresolved situations can never be ignored, nor can the institutionalizing of human inquiry in the form of elaborate social routines and controls, as in the various research organizations or in the traditional systems of thought. But there is an incandescence imparted to experience by a curiosity so illuminatingly human that it has demanded special attention. Especially is this true of the broad, intimate, and eternal experiences which have come to mean philosophy. This is why the trite statement that "everyone has a philosophy of life" is something more than banal. To the degree that anyone has kept alive this feeling of wonderment about the world into which he has been thrust — and everyone worthy of being designated human has some glimmer, however feeble, of that primal spark — he has a potential philosophic interest.

It goes without saying, however, that curiosity by itself is scarcely tantamount to philosophy. Cats are curious, they say, even fatally so, but few cats (excepting always mehitabel) have been therefore philosophers. That curiosity must be qualified. It must be more than simply a big blank question-mark. For one thing, philosophic curiosity should ordinarily be total. That is to say, it must be a wonderment about all things, or rather, as we have been suggesting, about all things in their widest and most general relationships. It is a curiosity typified by the question, "What does it all mean?" — not the cynical, disillusioned question that might be indicated by

those words, but a legitimate one with its emphasis on that word "all." This is by no means an impertinent question. No matter how impudent a total curiosity may seem, it is still a quite natural and almost commonplace attitude of man. Once his exacting curiosity is aroused, it is not easily stopped. If certain questions are worthy of being asked, others are, too, even the most staggering and breath-taking.

This business of raising enormously comprehensive questions is by no means, then, an affected gesture or a bit of bravado. Man wants to talk about these grandiose affairs, about the world, destiny, and the human soul. Actually, he cannot be prevented, any more than he can be kept from completing in his imagination the circle of which he has been shown an arc. The present-day "bull session" during the small hours of morning in some college dormitory does not give all its attention to sex. However half-baked and sophomoric, "philosophy" is also present (which does not imply that there is no philosophy in sex). It is present because men have always made their questions continuous with life itself, and no less ambitious. This "seeing things together," this *Weltanschauung,* is the total attitude that is here being suggested as a necessary attribute of philosophic curiosity.

A further qualification of that curiosity is its discipline. Wonderment can be shapeless and inarticulate, dumb to the point of helplessness. It may be nothing but a great round "O!" But the curiosity which can be dignified by adjectives like "philosophic" or "scientific" requires refinement and precision. It becomes a critical and systematic curiosity, formulating exact and provocative questions. The problems that stimulate it must lead to diagnosis and clear statement before they can be considered relevant. In a way, to define curiosity may rob philosophy of many of the fascinating paradoxes which have given it sometimes that warm, inconsequential glow of after-dinner conversation. The formulation of problems may even require much necessary amendment and qualifi-

cation of the abstract questions that have just been presented as typical of philosophic wonder. Their very scope should demand direction and focus. Questions about the world, destiny and the soul may have to be translated into more operational language. However large, questions must be well stated before they can be answered — or even before they can be asked.

Still another attribute of philosophic curiosity may be proposed, but with a good deal of hesitation. It is a rather classical attribute and may not sit well with modern educational psychology — or even with other arguments in the present work. It is that in some way philosophic curiosity is a curiosity for its own sweet sake, and not for something ulterior. In other words, it is not for grossly "practical" reasons that we want to know the nature of Space or Time or Causation. The "love" that belongs to the very word itself (*phileō* means "to love," and *sophia,* "wisdom") is indeed a Platonic love, a love of knowledge for its own precious self. Such an attitude, of course, can be deflected into one of perversion and caricature, into dilettantism and "art for art's sake." Especially would that be dangerous in the field of ethics and social philosophy. The good life cannot simply be loved, it must be striven for. Nevertheless, there does seem to be strength in the outlook that makes philosophy elective instead of required, that places upon the student's intellectual curiosity the challenge of discovering the (pure) joys and benefits of the love of knowledge itself.

Problem-Solving and Curiosity

There is some danger that the present emphasis on curiosity and wonder may obscure the argument of the previous chapter. That argument pointed to problems and unanswered questions, particularly in the social and ethical area, as a focus for philosophy. And later arguments will present reflective thinking, scientific method, and the entire field of values almost exclusively in terms of problem-solving. But curiosity and problem-solving present no more of

a contradiction than there is, say, between the fumbling free play of the infant which supposedly leads to its "curiosity" and the earliest of infantile attempts to handle difficulties, either manually or vocally. Curiosity, too, is a form of problem-solving where, perhaps, the difficulties are not pressing. Long-run problems demand something like free play — if not downright fumbling. Philosophy is intimately related to curiosity, but no more closely than it is to problem-solving.

Just as it would be unrewarding to try to decide whether the infant's "curiosity" or its difficulties were primary, so with the sources of philosophy. There is a subtle and mutual interchange between wonder and problems, one giving way to the other. Especially is this so when, as mentioned before, the two have become institutionalized. In a scientific research foundation, for example, curiosity becomes a secondary source of inquiry. Specific problems are the focus of investigation, as in seeking a cure for cancer or for the common cold, or in trying to understand the process of photosynthesis. The same is largely true in philosophy where the place of the research foundation may be said to be taken by the institutionalized questions set forth in the classic philosophic systems; here, also, curiosity becomes secondary once well-recognized routines of investigation have been established.

The difficulty in the "institutionalizing" of philosophic curiosity and of problem-raising is, of course, that certain famous historical issues in philosophy tend to serve as the orientation for further investigation, leading to the possible exclusion of more urgent questions. There will be no repetition here of the argument of the opening chapter, nor is there any intention to cast doubt on the validity of most of the classical topics. The perennial appeal of questions like these is indubitable: How can we know? What is truth? What are the ingredients of the good life? How does the universe function and what is it made of? What are the tests of reliable reasoning? Both curiosity and the sense of unresolved

puzzles, not to mention the sheer urge to play in a cosmic setting, conspire to give such momentous queries continued freshness. But "it is later than you think." The insistent threat of internal economic collapse, class struggle, and civilization-destroying total war must turn all available human energies to the social scene. Some things can wait, others cannot.

The Approaches to Philosophy

Should this still seem too journalistic or "hot-and-bothered" an approach to philosophy, it can be pointed out that there have been many attitudes of approach. At times in past centuries philosophy has been taken very seriously, so seriously that Socrates was killed for it, Spinoza excommunicated, and Bruno burned in the marketplace. On the other hand, the seriousness that philosophy has provoked has sometimes been one of extravagant respect, even of downright awe. For instance, there have been times — as during the early Roman Empire — when a class of professional philosophers was considered necessary so that rich men could have intellectual companions to comfort and advise them.

A more familiar reaction to philosophy has been one of good-natured contempt. Instead of being serious about the whole affair of philosophic speculation, people have often been tolerant and patronizing. It is the attitude of amused forbearance and condescension that has helped to keep alive the quaint stories and descriptions — about Thales falling into a well while gazing contemplatively at the stars, or about philosophy being like the search on a dark night for a black cat that isn't there, and all the rest.

These attitudes seem of little help to the student. He cannot be expected (even if he has a strong sense of social significance) to approach philosophy with the earnestness of the executioner or the neophyte, and it should be hoped that he will avoid superciliousness. Development of a sensitive curiosity and of the feel for sig-

nificantly unanswered questions would appear to be an attitude much more rewarding and fruitful for the beginner in philosophy. Of course, there is no moral compulsion about being curious. We can react to our puzzling environment in purely sensory or emotional or vegetative terms. We may even feel slightly ashamed of a cosmic wonder — and want to lie down until the feeling passes over. But in philosophy, at least, our working assumption must always be that things are worth knowing about. Above the door of any philosophic library or classroom should be placed — if only in the imagination — those familiar words of Socrates: "An unexamined life is not worth living."

The present chapter is devoted to looking at some of the preliminary points which might be raised by or be helpful to a beginning student. Is philosophy concerned chiefly with questions about nature or about human nature? Is philosophy's concentration upon general problems legitimate or necessary? What are the possible sources of philosophy, and the approaches to it? There is at least one other important preliminary — the language of philosophy.

PHILOSOPHIC VOCABULARY

It is probable that the greatest difficulty experienced by beginners in philosophy is the matter of vocabulary. Most uninitiated readers who venture to pick up a book on philosophy will find that many of the words they come across are unfamiliar, or, worse still, that apparently familiar words ("subjective" and "objective," for instance, or "realist" and "idealist") are used in a foreign and perplexing sense. Too often the first impatient reaction becomes a permanent one: the would-be reader is negatively conditioned, and forever after regards philosophy as just so much pretentious gibberish.

Philosophers themselves, of course, must shoulder a great share

of the blame, for frequently they have been the victims and the purveyors of jargon. (Although they always have been much more sensitive to their linguistic failings than our modern semanticists seem to suspect.) But philosophers have by no means been the sole offenders in preventing a meeting of the minds of the philosophic reader and writer. The reader himself has too often been needlessly hasty and intolerant when confronted by new, Greek-sounding terms.

The Need for Vocabulary

Prejudice against polysyllables does not seem so pronounced in other fields. After all we do speak without hesitation of photosynthesis, stellar parallax, colloids and catalysts, paramnesia — even of carburetors and differentials, not to mention some of the names of the more recent diseases. There used to be a newspaper cartoon called "Shop-Talk" which poked fun at the pedantic jargon of various trades and professions. One of the most successful pictures was devoted to the conversation of two plumbers. Be assured that no normal non-plumber could understand a word of what these two men were saying! Their vocabulary was altogether meaningless and correspondingly impressive to a layman. If plumbers can use big words, why can't philosophers?

Professor Robert Lowie, the noted anthropologist, has addressed himself, in a very amusing article,[2] to the person who protests against "academic jargon." Has such a person, he asks, "ever listened to a waiter conveying his order to the cook? Has he ever read the sports sheet of the daily newspaper? 'Campbell, inserted for Foxx after the latter beat out on infield roller, scored the winning tally on Doerr's long double to centerfield.' This is indeed jargon, but not academic jargon. And what of the instructions on a federal income-tax blank, devised by businessmen for businessmen? What is 'accrual,' or 'earned income credit,' or a 'wash sale'?"

[2] "The Professor Talks Back," in the *Antioch Review*, vol. II, no. 2.

Professor Lowie goes on to say that every technical vocabulary assumes two things, (*a*) a public that will understand — the terminology of the bull-ring is for *aficionados,* not for contract-bridge fiends; and (*b*) the need for simplification.

Good philosophic writing respects criteria such as these. It must certainly assume a philosophic public. A person who is repelled by the words the first time he picks up a philosophy book might also be appalled if he overheard two hepcats in the groove about jive. Verbal initiation is required in every field. As for simplification, it may seem absurd to call words like "epistemology" or "transcendentalism" simple, yet if "epistemology" were not available, we should have to say instead something like this: "a major branch of philosophy dealing with the problem of knowledge, that problem being chiefly concerned with the sources and validity of human sensory perceptions."

It will be noticed that Professor Lowie did not insist that a terminology must always have tangible "referents" — specific or physical "things" to which words refer — behind it. The big words, say, of biochemistry or astronomy have been accepted ungrudgingly because they point to something concrete, to a reliable event or process, whereas philosophical terms point usually to nothing more specific than a lot of other words. This is an important accusation and will be returned to in a different connection later.[3] It may be sufficient here simply to establish that vocabularies must differ as do subjects, and that a subject like philosophy, dealing admittedly with general interests, can hardly be judged by standards that apply only to specialized fields. To point to a tangible referent for space, time, or cosmic destiny is perhaps a little too much to expect. Furthermore, to an almost overwhelming extent philosophy uses words (like "mind," "real," "ideal," and the like) which have meaning in common use as well as particular meaning in the philosophic dimension. All this, however, should be no excuse for

[3] See *infra,* pp. 115 ff.

incompetent vocabulary. Words that do not simplify, or that mystify even a chosen public, are no more defensible in philosophy than elsewhere.

The argument being made here is that every subject-matter, be it plumbing or metaphysics, needs a technical vocabulary. To express ideas, words or symbols of some sort must be employed. Perhaps new terms have to be invented; possibly old words must be given a new slant and twist of meaning. In any case, communication between writer and reader, or speaker and audience, requires what the lawyers call a "meeting of the minds"; and without a technique of communication, language of some sort, that can never happen. This realization in no way constitutes an apology for inaccurate, barbarous, or deceptively meaningless words. The jargon of shop-talk should still be a fertile subject for caricaturists. But ideas demand words, even, when the occasion requires it, resounding ones.

The Magic of Words

Words have a powerful magic. They are charms that open doors and that give us a hold on things. They are handles which allow us to manipulate the world. Consider, for example, the young woman who looks under the hood of an automobile for the first time and asks, "What's that?" "That's the carburetor." "Oh, the carburetor; I see," she answers. Her knowledge of internal combustion engines is not necessarily increased, but she does have another word in her vocabulary. She is satisfied. So learning grows! Do we really know any more about a tropical fruit when we are told it is a mango; or about a flower when it is called a vanda? But we feel better about it, for we have learned something. Just as we are a little more comfortable when we find out what words like "metaphysics" and "axiology" stand for.

There is nothing wrong in all this. In fact, most of our education, formal or informal, is founded upon — and very often means no more than — increasing our word-power. And it has always

been so. It is not for nothing that the primitive refuses to allow his name to be known, or that the early Egyptians had a name-soul. To know the name of anything is to be able to use it, to control it. Your name can be written — and rubbed out. (Don't we still say, "Your name is mud"?) Adam was granted the privilege of naming all things: naming them meant having power over them. And no greater tribute was ever paid to the majesty of language than those opening lines of the Gospel according to John: "In the beginning was the Word, and the Word was with God, and the Word was God."

Language, then, is no mere copy of the world. It is a dynamic interpretation of experience, a form of action and control. It is alive and moving, a breathing clue to the profoundest philosophy and the most penetrating religion as well as to the mind of savage man. It is the technique of propaganda and the weapon of education. The Greeks did have a word for it — *logos.* For this was both the word that expresses thought and the thought itself; so "logic" is the science of language as well as of reasoning, and our scientific "-ologies" are words about the world. Greek fascination with language — a fascination that undoubtedly had much of the primitive in it, since rhetoric and grammar and the formal syntax of speech were then in their infancy — underlay all their thinking and went so far as to make Aristotle say, not that "Socrates is a man," but that "Socrates is said to be a man." Thus, philosophic vocabulary is more than an imperative preliminary that must be faced by any beginner; it is also a path into the very heart of philosophic problem and argument, and affords a commentary — if sometimes an overelaborate one — on the constitutive function of language in all human experience.

Philosophy has not yet been defined in these opening pages. The reason is clear: it is much easier to describe philosophy than to define it. Definition means precision and confidence — qualities which it would be very rash to claim. Instead of trying to give

the field we are studying too many advance qualifications that might unduly restrict it, perhaps it would be more helpful to build up the philosophic attributes as we go along, preparing gradually a possible definition rather than presenting one abruptly. In describing what goes on in that area loosely labeled "philosophy," a formulation may presently emerge.

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Chapter Three

PHILOSOPHY, NATURE, AND SCIENCE

THE PRELIMINARIES of the preceding chapter should suggest clues that might make the plunge into the philosophic wilderness a little less forbidding. Given some warning about vocabulary and about the comprehensive character of philosophic discussion, and provided with some measure of curiosity, the beginner may be prepared for what follows. He may also recall another preliminary, that a familiar, although possibly dangerous, approach to philosophic problems found them under the headings of nature and human nature. That approach deserves at least to be explored. What about the relations of philosophy, nature — and science?

It will be remembered that one interpretation of philosophy is that it "is an explanation of the kind of universe in which we live, a theory of the world — how it runs and what it is made of. What is reality really and truly? For many, these questions establish the very core of philosophy," a core that is called *metaphysics.*

METAPHYSICS

It may seem that this kind of question is more scientific than philosophical, since the discovery of the alleged secrets of nature would appear to be precisely the province of the natural sciences. But the traditional metaphysical interest is in something different. For example, the metaphysician is not at all satisfied by being told about electrons or positrons or expanding universes; nor is he very much interested in hearing about stimulus-response or even cause-

and-effect, at least not as the scientist ordinarily uses those terms. Instead, metaphysics inquires into questions like these: Does the world's existence indicate a cosmic purpose? What is existence anyway? Is the idea of cause-and-effect used by the scientist an intelligible or valid one? Is there any fundamental "substance" or root of all things with which science does not deal? Is there an "inner being of the world, that which essentially is, and is *per se*" (Hegel)? Can we discover "the inmost nature, the kernel, of every particular thing, and also of the whole [that] appears in every blind force of nature and also in the preconsidered action of man" (Schopenhauer)?

These questions are not characteristically scientific. As Dean Woodbridge has pointed out, "science asks for the laws of existence and discovers them by experiment. Metaphysics asks for the nature of reality and discovers it by definition." [1] It is not scientific experiment that forces Bergson into this eloquent description of the metaphysical enterprise:

> I have no sooner commenced to philosophize than I ask myself why I exist; and when I take account of the intimate connection in which I stand to the rest of the universe, the difficulty is only pushed back, for I want to know why the universe exists; and if I refer the universe to a Principle immanent or transcendent that supports it or creates it, my thought rests on this principle only a few moments, for the same problem recurs, this time in its full breadth and generality: Whence comes it, and how can it be understood, that anything exists? . . . Why does this Principle exist rather than nothing? [2]

Thus, the *ultimate* and *final* aspects of the world, aspects about which, frankly, we can only *speculate,* but which seem nevertheless to give important meaning and significance (even if possibly a

[1] F. J. E. Woodbridge, *Nature and Mind* (New York, Columbia University Press, 1937), pp. 40-41.

[2] Henri Bergson, *Creative Evolution* (New York, Henry Holt, 1911; Mitchell translation), p. 275.

negative meaning and significance) to the course of creation; the investigation of the very sense in which we use words like "being" and "existence," "to be or not to be" — these are the interests to which the metaphysician addresses himself and all philosophy.

To be more specific: The word "metaphysics" indicates it is in some way related to "physics." And since the Greek prefix *meta* does mean, among many other things, "after," the word metaphysics is often regarded as implying either a study that is pursued after one has finished physics or an enterprise that pushes beyond the more prosaic discoveries of the physical sciences, that begins where they leave off. This popular use of the term has some philosophic justification, but actually the word appears to have been derived in a much more humdrum fashion from library cataloguing. After his death, Aristotle's works — often lecture notes taken by his students — were collected and edited by his followers. There were works on astronomy, the soul, animals, politics, physics, ethics, logic, poetics, and many more, each roll of manuscript being appropriately labeled and filed. One series of writings did not bear any name. Apparently these were placed *after* — in a literal, bibliographical sense — the works on physics. And it was almost three centuries after the death of Aristotle that this "book" was termed the Metaphysics — *tōn meta ta physika.*

There are several reasons for mentioning this. For one thing, it casts at least etymological doubt upon the belief that there is something occult and oracular about metaphysics. (Public libraries have the unfortunate habit of throwing their mystical and prophetic books, those from the various esoteric sects, onto the shelves labeled "metaphysics.") For another, it also casts doubt upon the sharpness with which the Greek distinguished between "philosophy" and "science." Aristotle himself did make certain distinctions between branches of knowledge, but the principle (however unfortunate) of a clear-cut distinction between philosophy and science, such as we have today, did not seem to play much part

in the editing of his books. Finally, of more importance, the story ties up the name of Aristotle with metaphysics, and since it was in the Aristotelian writings that the word was invented (along with practically all the subject-names of science as well), it may be appropriate to consider briefly what "the master of them that know" talks about in the pages of this work.

Aristotle's Interpretation of Metaphysics

This is not, to be sure, a discussion of Aristotle and his times. But what metaphysicians talk about today is not very different in direction or emphasis from what we find in Aristotle himself. Had he given it an English title, Aristotle might well have called his book "First Principles." "First Science" would have been more accurate, but it is not very good English. What, then, are the first principles of anything, and what is the first science or the science of first things?

The direct answer — at least in strictly philosophical vocabulary — would be that the first science is about *being qua being*, or *being* just as *being*; which is not very helpful. Perhaps putting it in the form of a question might be better. What does it mean *to be*? That is a perplexing grammatical question, because we always want to add, to be — *what*? We forget that the English verb "to be" is not merely an auxiliary verb; we are not obliged to complete the sentence. (Hamlet should provide us good authority for not necessarily making a completion.) "To be" has a definite, independent meaning in itself. "To exist" is probably the more familiar English usage. Thus, we talk about the existence or non-existence of a ghost, and we refer to the essence (*esse* = to be) of an idea, or a character, or a perfume. What makes it what it is, instead of something else? What is its fundamental substance? Therefore, what does it mean *to be*? What is *being*? That, for Aristotle, would appear to be the problem of first principles, the subject-matter of metaphysics. Or, to phrase it differently, one can

ask questions like, What is it to be an animal, or a soul (or mind), or a state? And the answers would be found in the respective sciences of zoology, psychology, politics. But what is it to be — *anything*? Here the Aristotelian answer would be: the science or discipline of metaphysics. Metaphysicians of all ages would agree; their problems deal with *being as such.*

Aristotle goes on, of course, to discuss many things in his *Metaphysics.* He deals with causation, with the nature of substance, with the various categories of existence, with God Himself, the Eternal Prime Mover. But we do not have to follow Aristotle here. It is necessary, however, to try to make as clear as possible the fundamental metaphysical problem of existence, of being.

To science as well as to so-called common sense, it may seem a naïve or a meaningless query to wonder why anything at all should exist. Certainly, such wonder is largely irrelevant for the scientist; he can but lift his eyebrows if he is asked why atoms should have come to be, or what is the primal source of the electrical particles of the atom. Asking questions like these does not make the metaphysician superior or inferior; he has been described as talking both nonsense and inspired wisdom. The point here is simply to indicate that when metaphysics inquires about the elemental nature of things, it is not raising a scientific problem, nor, it may be added, is the problem therefore a necessarily religious one. Metaphysics is still the child of philosophic curiosity, a curiosity now directed to what many philosophers and non-philosophers as well have felt to be the very goal of all human effort.

To try one more phrasing of it, the question of *being* or *existence* involves that of causation — not the empirical cause-and-effect sequence studied by science, but one of admitted speculative concern. The physicist studying the atom can find no cause why it should *be,* other than, possibly, the laws of probability. There is nothing in the composition of matter and energy which indicates *why* they ever came into existence, or what is the elemental causative force

that made them *be* rather than *not be.* But the metaphysician feels that the brute presence of a world and its furniture must excite curiosity; why this and not something else; why, as a matter of fact, *something* instead of *nothing?* Bergson can again be quoted on this point:

> Existence appears to me like a conquest over nought. I say to myself that there might be, that indeed there ought to be, nothing, and I then wonder that there is something. Or I represent all reality extended on nothing as on a carpet: at first was nothing, and being has come by superaddition to it . . . In short, I cannot get rid of the idea that the full is an embroidery on the canvas of the void, that being is superimposed on nothing, and that in the idea of "nothing" there is *less* than in that of "something." Hence all the mystery.[3]

Hence metaphysics.

We can now become more specific as to both vocabulary and illustration. In grappling with the general problem of metaphysics, the familiar philosophic tools of analysis and synthesis can be used. Analysis clearly implies the reduction of anything to simple common denominators, the breaking-down of a subject into its basic elements. Applied to the concept of existence or reality, the analytical questions would therefore be: What is the world made of? To what fundamental ingredients can it be resolved? What is the "stuff" of reality? What, in Aristotle's phrasing, is the "substance" of the world?

> . . . We must inquire . . . what substances there are, and whether there are or are not any besides sensible substances, and how sensible substances exist, and whether there is a substance capable of separate existence (and if so why and how) or no such substance, apart from sensible substances; and we must first sketch the nature of substance . . . [which] is that which is not predicated of a stratum, but of which all else is predicated.[4]

[3] *Op. cit.,* p. 276.

[4] Aristotle's *Metaphysics* (Ross translation), Book Z, 2-3.

This is a different kind of analysis from that of nuclear physics. *Ontology* is the name given to such an aspect of the general metaphysical question, the attempt to decompose the universe (although the word is sometimes regarded as synonymous with metaphysics itself).

Synthetic metaphysics has acquired the name *cosmology.* The problem of cosmology is, in a sense, one of cosmic physiology rather than anatomy. What makes the world run? How does it function? Where is it going? These questions relate, of course, to ontological ones: in many cases, to answer what the universe is made of is to answer in some way the question of its destiny. But there does seem to be a convenient division between the metaphysical interests in *substance* and those in *process.*

Ontology

The question, What is the stuff of reality? has been suggested as characteristic of analytical metaphysics, of ontology. This word "stuff" is useful because it is neutral in its connotations. There can be mind- as well as body-stuff: the word does not have to mean something material or non-material. It can refer to either, to both, or to something quite different altogether. It can also refer to a purely arithmetical analysis: the world and all that is in it can be reduced to *one* basic stuff — *monism*; to *two* (or some other number) fundamental categories — *dualism*; or, on the contrary, the universe (which, therefore, is not really a *uni*verse) is regarded as *irreducible* to any single stuff or even to a limited number of categories — hence, *pluralism.* This is not simply a matter of adding "isms." Actually, if the world is to be analyzed — either scientifically or philosophically — these mathematical alternatives are obvious and inescapable. The physicist himself is driven to postulate some single, dual, or plural building-block out of which his matter and energy derive their structure.

What, then, would be examples of some of these metaphysical

reductions? What might a monist, for instance, posit as the one true source of all reality? There have been a number of answers to this rather overpowering question, but they have tended to group themselves in two large and conflicting camps, the rival philosophic camps of *materialism* and *idealism.* As words, these are typically bad illustrations of philosophic vocabulary, for the terms are also used in a more general sense: to be a materialist or an idealist has popular connotations from everyday speech usage that are inappropriate for philosophy. Worse than that, even in technical philosophy itself there are a great number of meanings assigned to these particular words: at the present time, for example, "materialism" refers to almost a half-dozen different areas of opinion, ranging from a rather petulant cynicism to the serious and official ideology of the entire Russian nation.

Materialism and Idealism

It does not help much to define philosophic materialism simply as "the belief that the fundamental single substance of reality is matter, and nothing else." For the word "matter" has undergone radical changes in meaning. At one time the term seemed to have a clear referent: matter was solid, eternal, and substantial. Possibly it was composed of hard, impenetrable atoms, very much like tiny billiard balls. In any event, it was a good, bourgeois, space-occupying item of common sense. It was something to be believed in, to hold fast to. Describing the evolution of the concept of matter from such an interpretation to one of higher mathematics and energy waves is not the present task. The point to be made here is that materialism does not necessarily rise or fall with changes in the interpretation of the physical nature of matter, for materialism implies (in extreme phrasing and with allowable exaggeration) that the element which is the basis of all existence is unconscious, non-thinking, and purposeless. Whatever is at the heart of reality is blind and meaningless. The single source of the

world is devoid of mind, point, or value. These traditional connotations of a belief in "matter" as the sole reality must, of course, be qualified; as stated, they are unquestionably excessive. But they should indicate the direction in which materialism points, or rather the general atmosphere or flavor that it suggests. Perhaps the materialist is making ethical, even esthetic, judgments about the world, expressing, as it were, a taste in universes. He is making a psychological reaction to the values of things as much as constructing a physical hypothesis about the nature of things. Take these passages, for example, from the most eloquently extreme of the ancient materialists, Lucretius, the great Latin poet:

> . . . All nature, then, as it is of itself, is built of these two things: for there are bodies [atoms] and the void, in which they are placed and where they move hither and thither. . . . And besides void and bodies no third nature by itself can be left in the list of things, which might either at any time fall within the purview of our senses, or be grasped by anyone through reasoning of the mind. . . .
>
> For in very truth, not by design did the first beginnings of things place themselves each in their order with foreseeing mind, nor indeed did they make compact what movements each should start, but because many of them shifting in many ways throughout the world are harried and buffeted by blows from limitless time, by trying movements and unions of every kind, at last they fall into such dispositions as those, whereby our world of things is created and holds together.[5]

And it is because there are "nothing but" atoms and the void plus their mechanical, accidental, yet deterministic movements that men should be Epicureans and realize "that nature cries aloud for nothing else but that pain may be kept far sundered from the body, and that, withdrawn from care and fear, she may enjoy in mind the sense of pleasure." [6]

[5] *On the Nature of Things* (Bailey translation). Book I, lines 419-423, 445-448; and 1021-1029.

[6] *Ibid.*, Book II, lines 16-19.

The French Enlightenment of the eighteenth century brought about a mighty upsurge of materialism, d'Holbach being one of its many belligerent representatives:

> Is it not more natural and more intelligible to derive everything which exists from the bosom of matter, whose existence is demonstrated by every one of our senses, whose effects we each instant experience, which we see acting, moving, communicating motion and generating ceaselessly, than to attribute the formation of things to an unknown force, to a spiritual being which cannot develop from its nature what it is not itself, and which, by the spiritual essence attributed to it is incapable of doing anything and of setting anything in motion? [7]
>
> . . . It cannot be said nature is intelligent after the manner of any of the beings she contains; but she can produce intelligent beings by assembling matter suitable to form the particular organization, from whose peculiar modes of action will result the faculty called intelligence . . . In short, experience proves beyond a doubt that matter, which is regarded as inert and dead, assumes sensible action — intelligence, life — when it is combined after particular modes.[8]

These are samples, then, of what can be called one of the classic temperaments or attitudes of mind in philosophy.

To say that the other attitude, *idealism*, signifies "the belief that the fundamental single substance of reality is ideas and nothing else" is not very enlightening. (The word should really be "ideaism": the *l* is for euphony.) Idealism also indicates a temper of mind, but one that sees reality as quite different from simply "atoms moving in the void." The world-stuff is basically mental, spiritual, conscious. It is more like human thought than it is like mud. It therefore implies value, purpose, and meaning, perhaps even divinity. The really real, the one metaphysical source of everything in the universe, is constituted of a living, value-preserving,

[7] *Common Sense*, section 22.

[8] *The System of Nature*, chapter V.

intelligent force. "Matter," for the idealist, is in no way irreducible; upon examination, it turns into force, energy, or into a mathematical equation that seems, for some contemporary neo-idealists, to be very much like an idea in some hyperconsciousness. The new physics has introduced the new idealism. A contemporary and sophisticated description of why the universe is more like thought than it is like crude "matter" is that given by Sir James Jeans:

> Today there is a wide measure of agreement, which on the physical side of science approaches almost to unanimity, that the stream of knowledge is heading towards a non-mechanical reality: the universe begins to look more like a great thought than like a great machine. Mind no longer appears as an accidental intruder into the realm of matter; we are beginning to suspect that we ought rather to hail it as the creator and governor of the realm of matter — not of course our individual minds, but the mind in which the atoms out of which our individual minds have grown exist as thoughts.
>
> The new knowledge compels us to revise our hasty first impressions that we had stumbled into a universe which either did not concern itself with life or was actively hostile to life. The old dualism of mind and matter, which was mainly responsible for the supposed hostility, seems likely to disappear, not through matter becoming in any way more shadowy or insubstantial than heretofore, or through mind becoming resolved into a function of the working of matter, but through substantial matter resolving itself into a creation and manifestation of mind. We discover that the universe shews evidence of a designing or controlling power that has something in common with our own individual minds — not, so far as we have discovered, emotion, morality, or aesthetic appreciation, but the tendency to think in the way which, for want of a better word, we describe as mathematical. And while much in it may be hostile to the material appendages of life, much also is akin to the fundamental activities of life; we are not so much strangers or intruders in the universe as we at first thought . . . From the intrinsic evidence of his creation,

> the Great Architect of the Universe now begins to appear as a pure mathematician.[9]

Josiah Royce, the American philosopher, has also given a brilliant picture of how the idealist feels about the nature of things:

> The world, then, is such stuff as ideas are made of. Thought possesses all things. But the world isn't unreal. It extends infinitely beyond our private consciousness, because it is the world of an universal mind. What facts it is to contain only experience can inform us. There is no magic that can anticipate the work of science. Absolutely the *only* thing sure from the first about this world, however, is that it is intelligent, rational, orderly, essentially comprehensible, so that all its problems are somewhere solved, all its darkest mysteries are known to the supreme Self. This Self infinitely and reflectively transcends our consciousness, and therefore, since it includes us, it is at the very least a person, and more definitely conscious than we are; for what it possesses is self-reflecting knowledge, and what is knowledge aware of itself, but consciousness? Beyond the seeming wreck and chaos of our finite problems, its eternal insight dwells, therefore, in absolute and supreme majesty. Yet it is not far from every one of us. There is no least or most transient thought that flits through a child's mind, or that troubles with the faintest line of care a maiden's face, and that still does not contain and embody something of this divine Logos.[10]

A commonplace anatomical illustration may help to make a little more concrete the crucial difference between the idealistic and materialistic temperaments. Human consciousness is, of course, dependent upon a brain and central nervous system. Even the most anti-materialistic thinker would admit the connection; in fact he would have to admit further that the dependence is a functional

[9] From Sir James Jeans, *The Mysterious Universe* (New York, Macmillan, 1930), pp. 158-159; 144. By permission of The Macmillan Company, publishers.

[10] Josiah Royce, *The Spirit of Modern Philosophy* (Boston, Houghton Mifflin, 1892), Lecture XI, p. 380.

one; that is, that the powers and directions of the human mind vary as do the health and development of nervous tissue. Simple experiments in brain pathology give conclusive evidence of such a correlation. The problem, however, that arises from this admitted linkage can be found in the phrase, "the philosophy of nothing but." Materialism sees in the physiological background of consciousness clear proof that the human mind (not to mention the even more mythical "soul") is "nothing but" a function of neurons in motion. The brain is material. It can be put on a table and dissected. The spinal cord and nerve cells can be analyzed by the biologist. Nothing "mental" or "spiritual" is left over. It must follow that what we call human consciousness is the effect of neurological activity: the meaning of mind is exhausted once we understand the processes of the brain.

The idealist is outraged by this use of "the philosophy of nothing but." He would reverse the whole causal relationship in this illustration. Consciousness is primal, and the nervous system is its instrument; if there is going to be a reduction to "nothing but," why, clearly, the brain is but a tool of the mind. To change the anatomy involved, the idealist might propose this argument: Consider the relationship between stomach and digestion. The materialist would offer the same, apparently plausible, contention that digestion is a function of a digestive system, just as consciousness is a function and product of a nervous system. But he would be extraordinarily naïve. For, says the idealist, the stomach is literally the effect of a *need.* The evolutionary process did not suddenly come upon some digestive apparatus and then find a use for it! Instead, digestive demands were the elemental datum, and stomachs were *created* and *formed* by the push of life-force. The same is true for the idealist's Mind. It is prior to body in both significance and causal power. Consciousness requires a means through which to express itself. That means may be crude matter or electrons or a highly integrated nervous system. Instead of being "nothing but" the effect

of operations in the material world, ideas are the causal reason for the very existence of a material world.

This discussion of materialism and idealism began several pages back in an attempt to find samples of metaphysical or ontological analysis. If philosophers choose to reduce the universe to one fundamental substance, what is it to be? Reduction to the elements of mind or matter has been a favorite device, and one that is especially revealing for the light it throws on the esthetic temperaments and the ethical values of the reducers. Of course, as was noted earlier, *monism* itself is by no means the only arithmetical possibility. *Dualism*, for example, may afford a much easier compromise position, for here the universe does not have to be compressed quite so rigidly. Matter or mind do not have to be explained in terms of one another. They are separate and parallel, both equally elemental, and perhaps, like East and West, shall never meet. There are, according to dualism, two basic units, two independent substances, and their interaction will account for all existence. Both body and soul are genuine: neither is an illusion, and neither has to be explained away. Descartes was perhaps the most notable advocate of such a split between matter and mind.

Dualism, moreover, is not confined to metaphysics. Most religions seem to manifest an ethical bifurcation, a cutting-in-two of life by the forces of good and evil. Flesh and spirit are moral as well as metaphysical contrasts. (And some philosophers have even included male and female.)

Still another numerical possibility is to allow the world to remain the multitudinous flux it appears to most men. The *pluralists* are more tough-minded and incorrigible; they refuse to enter at all upon the path of philosophical reduction. Things *are* what they seem. There is no bed of Procrustes that deforms all things to a single pattern. Different levels of existence there may be, and they may differ enormously in value and meaning. But they do not

differ in *being*. They are all substantially equal. Metaphysics, too, must be democratic. William James phrases pluralism this way:

> Everything you can think of, however vast or inclusive, has on the pluralistic view a genuinely "external" environment of some sort or amount. Things are "with" one another in many ways, but nothing includes everything or dominates over everything. The word "and" trails along after every sentence. Something always escapes. "Ever not quite" has to be said of the best attempts made anywhere in the universe at attaining all-inclusiveness. The pluralistic world is thus more like a federal republic than like an empire or kingdom. However much may be collected, however much may report itself as present at any effective centre of consciousness or action, something else is self-governed and absent and unreduced to unity.[11]

Cosmology

The chief questions raised by cosmology deal with the process and functioning of the world rather than with the stuff of which it is made. Yet the two aspects of metaphysics supplement each other; typical questions in one would find companion questions in the other. For example, if the world is made of unthinking matter and nothing else, then it is likely that it runs in a purely mechanical fashion. It obeys certain laws like any machine, but has no control over them. The universe rolls on its way without plan, purpose, or design. This approach is, of course, *mechanism*. Although there are notable exceptions in the history of philosophy, and although the terms are now becoming slightly dated, the chances are very high that the materialist will be a mechanist, and the mechanist a materialist. The full meaning of one implies, in fact, the other, since to say that the world is nothing but material stuff is really to say that the world grinds along blindly, a soulless automaton.

[11] William James, *A Pluralistic Universe* (New York, Longmans Green, 1928 ed.), pp. 321-322.

The idealist, on the other hand, would ordinarily embrace a *teleological* cosmology. This is simply a way of saying that purpose and design are the very essence of things. A mind-centered universe must be in some way a directed one, must follow some cosmic blueprint, must presuppose eventually a divine superintendent. The very nature of ideas and of consciousness is to be discovered in foresight and intent, in meaningful pattern. An idealistic world must have a planned end, a goal; it is going somewhere.

It would appear, then, that the break between materialism-mechanism and idealism-teleology is to be found in their respective answers to the question: Does the world have any value or significance? The former tends to find only despair and friendlessness in "nature"; the latter sees meaning, intention, and goodness. Where one finds values only in a subjective, human dimension, the other sees them at large in the universe of things, in the objective, external world. Man is an orphan: No, he is the son of God. In short, do values have a status in the non-human world, or do they not? Is ethics a matter of sociology or of metaphysics? Here is the great philosophic divide. Two contrasting quotations may illustrate it. The first is from the moving and familiar essay of Bertrand Russell, "A Free Man's Worship." Here is a brilliant summary of the disillusionment, the heroic despair, to be found in the philosophic tradition that has been described as materialistic or mechanistic. One eloquently long sentence summarizes the essay:

> That Man is the product of causes which had no prevision of the end they were achieving; that his origin, his growth, his hopes and fears, his loves and his beliefs, are but the outcome of accidental collocations of atoms; that no fire, no heroism, no intensity of thought and feeling, can preserve an individual life beyond the grave; that all the labor of the ages, all the devotion, all the inspiration, all the noonday brightness of human genius, are destined to extinction in the vast death of the solar system, and that the whole temple of Man's achievement must inevitably be buried beneath the debris of a universe in ruins — all these

things, if not quite beyond dispute, are yet so nearly certain, that no philosophy which rejects them can hope to stand.[12]

It is not easy to find a parallel confession of faith from the opposite camp, since scathing eloquence is more congenial to the critic than to the believer. But a contemporary idealist,[13] Professor Clifford Barrett, phrases his position sharply, although without the tragic force of a Russell:

> Naturalism succeeds in its explanation of man only by leaving out of account, as a kind of remainder after the problem is finished, all those aesthetic, moral, religious, indeed all those social values which constitute the essential part of human life. It may say that they arise as man's reaction, and offer a physiological description of the conditions under which they do thus arise from motor-affective activities in the body. But this does not answer the real question, which is whether there is anything in nature akin to our experiences of value — it merely describes the way in which we have these experiences. Could a universe, totally destitute of the characteristics of values — a totally meaningless and valueless physical order, produce beings whose basic characteristic is that of experiencing in terms of values?
>
> . . . To the idealist it appears clear that nature is best interpreted, most clearly seen at work and understood, not in her lowest and most simple, but in her highest and most developed manifestations. We do not find what *nature* is by *reducing* man or any other of her manifestations, but rather by regarding man at his best as her manifestation. Nature must be sufficient in her resources to produce beings of mind and spirit. . . . This higher aspect of the world of his experience, this Being in the world from which his spirit comes and with which he finds spiritual

[12] Bertrand Russell, *Mysticism and Logic* (New York, W. W. Norton, 1929), where the essay appears as chapter III, pp. 47-48.

[13] "Idealism" remains perhaps the best word to describe this temper of mind. Other terms, like "supernaturalism" and "spiritualism," have also been used, but their connotations, at least in the American language, are toward the occult and the esoteric; and it is unfair to burden the idealist with cult-words.

> unity, whether regarded as a *personal* or as an *impersonal* presence, he [the idealist] rightly calls God.[14]

Naturalism

The term "naturalism" is found in the preceding quotation. It is a word that has been used, particularly by anti-naturalists, to summarize the classical attitudes of materialism and mechanism.[15] Russell's words, for example, would be looked upon by some as the epitome of "naturalism." One reason for the use of the term has been that "materialism" and "mechanism" have become distinctly unfashionable, above all, since the rise of the new physics; they have seemed too extreme, and so a more neutral word seemed to be indicated.

It is not fair, however, to present-day naturalists to burden them with all the implications, especially the ethical ones, that flow from Bertrand Russell's challenge. This is not to deny that naturalism would agree with a good part of that challenge, for naturalism of any day represents a philosophic attitude opposed to all "supernatural" attempts to explain the world. Naturalism maintains that the whole of reality is to be found in nature, that there is nothing beyond nature — and what is nature? It consists of all the data and hypotheses and laws accepted and described by the natural and the social sciences. This is a very flexible definition, and deliberately so; the sciences are flexible. Nature used to be defined more rigidly: the materialistic and mechanistic pictures have already been sketched. These present too much of a monochrome, however, for the naturalist. Science can no longer deal exclusively with the gross "matter" or the lever-and-pulley "mechanism" of an earlier day. Even the less rigid definition of nature, as "the sum of

[14] Clifford Barrett, *Philosophy* (New York, Macmillan, 1935), pp. 356-357. By permission of The Macmillan Company, publishers.

[15] Compare W. E. Hocking, *Types of Philosophy* (New York, Scribner's, 1929), chapters III, IV.

things and events in space and time, subject to a single system of causal laws," is too unbending, for space, time, and causality have been undergoing momentous alteration within the last generation. Thus, nature becomes what happens to be talked about at any given moment by the scientist. This definition is not meant to be fanciful. On the contrary, its implications are unusually serious. Since nature constitutes the whole of reality, there is nothing beyond nature. Since nature's meaning is exhausted by scientific techniques, there is nothing (at least, nothing of interest or import) that is not covered by methods of reflective thinking. There is no "extra superfine" brand of knowledge that can penetrate beyond nature.

Two contemporary naturalists may be quoted on this point:

> There is for naturalism no knowledge except that of the type ordinarily called "scientific." But such knowledge cannot be said to be restricted by its method to any limited field of subject-matter — to the exclusion, let us say, of the processes called "history" and the "fine arts." For whether a question is about forces "within the atom," or about the distribution of galaxies, or about the qualities and pattern of sound called Beethoven's Second Rasumowski Quartette and the joy some men have found in them — in any case there is no serious way to approach controlled hypotheses as to what the answers should be except by inspection of the relevant evidence and by inductive inference from it.[16]
>
> The naturalist is one who has respect for the conclusions of natural science. Hence he is quite aware that "matter" has in modern science none of the low, base, inert properties assigned to it in classic Greek and medieval philosophy: properties that were the ground for setting it in stark opposition to all that is higher, to which eulogistic adjectives may be applied. In consequence, he is aware that since "matter" and "materialism" acquired their significance in contrast with something called "spirit"

[16] William R. Dennes, in *Naturalism and the Human Spirit*, edited by Y. H. Krikorian (New York, Columbia University Press, 1944), p. 289.

> and "spiritualism," the fact that naturalism has no place for the latter also deprives the former epithets of all significance in philosophy. It would be difficult to find a greater distance between any two terms than that which separates "matter" in the Greek-medieval tradition and the technical signification, suitably expressed in mathematical symbols, that the word bears in science today.[17]

Where naturalism breaks with the ideas expressed, for instance, in Bertrand Russell's essay, is at the point of interpreting human values. Modern naturalism does not celebrate the meaninglessness of the universe as does the triumph song of Russell's free man. Cosmic meaning may indeed be absent from the natural sciences; that it is therefore absent from ethics may or may not be a logical implication. For it is not simply logic that excludes "God, freedom, and immortality" from the traditional materialist's universe; it is as much a philosophical attitude, a poet's disposition. To say that the universe is completely alien to man seems as much of a small-boy attitude as to find in it nothing but plums and goodies. The universe is what it is: it seems to be morally neutral. Some elements are indeed foreign to man — like the unexplained explosion of distant suns. Some are downright hostile — such as the bacterial struggle for existence. Yet other aspects are not; they are co-operative or at least workable; for example, the existence of "good" bacteria, the gregarious nature of certain mammals, including man, the general course of evolution. It is true that man's values may mean nothing to the so-called "outside" universe, even if it is in part co-operative or workable; but those values mean much to him. In any event, he takes them seriously.

Naturalism and Humanism

This is why *humanism* seems as appropriate a term as ***naturalism.*** Man does not have to be disenchanted by the bleak spectacle of a

[17] John Dewey, in *ibid.*, pp. 2-3.

mindless and drifting universe. After all, he is part of nature and his values are a part, the most precious part, of him. It takes little logical skill to draw the conclusion that values are therefore part of nature. Every aspect of experience is equally real, values no less than any other. That values may be irrelevant to stars and atoms may seem clear, but that is no reason why man should not take his own purposes seriously. Stars and atoms may be unaffected by war and revolution — but not men.

That man and his values are as natural as anything else — this is the basic assumption of a humanistic naturalism. They are continuous with nature. Therefore, it appears inconsistent for the more classic naturalist to fly to heroic despair. There is no need to despair because the non-human world seems to have little concern with man, or because the physical universe is doomed to some kind of extinction sooner or later. Actually, to talk about the world and man as if they were distinct categories is itself an inconsistency for any type of naturalist. And as for the doom of the physical universe, Sir James Jeans has an interesting way of putting it, one that is a powerful antidote to despair.

He pictures the length of time the earth has been in existence as comparable to the height of an obelisk — like the Cleopatra's Needle in New York City's Central Park or the one on the Thames Embankment in London — some seventy feet high. On top of this obelisk he puts a penny, the thickness of which represents the time man has been on earth, and on top of that a postage stamp: the thickness of the stamp represents the time man has been "civilized." Now, he says, keep piling on postage stamps until their height reaches that of Mont Blanc. That is the time man has in front of him! A mountain *versus* the thickness of a postage stamp! Man is no more than a child of the dawn, with hundreds of millions of years ahead of him — at least so far as astronomy and geology can determine. Time enough to do anything he wills. To conquer disease, poverty, even death; to colonize remote planets, even to

turn back the clock of entropy (the clock that indicates all energy is becoming more and more unavailable) — nothing is automatically impossible. The universe may be doomed, but to despair about it is pathological. (As a parenthesis one should add, however, that not astronomy and geology but social questions present the grand challenge to man. For unless he solves the problems of war and peace and social justice, he has nothing like this time in front of him. One more war, an atomic-bomb war, will send him back to the cave. That is why no one who calls himself a naturalist or a humanist can possibly ignore questions of economics and politics.)

A further point of difference between the old and the new "naturalism" is that the older (materialistic) naturalists inclined to what might be called a reductionist type of continuity. That is to say, life and consciousness could be "reduced" to biochemical equations; therefore they were "nothing but" biochemical equations. There was what might be called a genetic continuity: all things could be reduced to their basic origins in matter and motion. To take a possibly unfair illustration: this is like the knowledge of the little boy who comes home to his mother after the general science class and informs her that water is not *really* water, but only H_2O. Professor J. H. Randall, Jr., phrases this point as follows:

> . . . The "new" or "contemporary" naturalism . . . stands in fundamental opposition not only to all forms of supernaturalism, but also to all types of the reductionist thinking which up to this generation often arrogated to itself the adjective "naturalistic" and still is suggested by it to the popular mind. Second only to the unanimity with which these writers reject supernaturalism and acclaim scientific procedures is their agreement that the richness and variety of natural phenomena and human experience cannot be explained away and "reduced" to something else. The world is not really "nothing but" something other than it appears to be: it is what it is, in all its manifold variety, with all its distinctive kinds of activity.[18]

[18] In *Naturalism and the Human Spirit, op. cit.*, p. 361.

The modern naturalist is interested in other types of continuity. Instead of the categories of "matter" and "motion," those of "events," "relations," "qualities," "levels," and so on, are what seem significant. At the liquid level, water is *really* wet; to say that hydrogen and oxygen are not wet, and that therefore water cannot be, is not helpful. Above all, the contemporary naturalist is concerned with the continuity of inquiry. He assumes that scientific, experimental procedures can operate upon all human experience. In terms of reflective inquiry there are no discontinuities. Values, no less than atoms, must come under intelligent scrutiny — which does not imply the caricature that everything must be put into test tubes. Putting things in test tubes is not a synonym for scientific method. But the spirit of scientific investigation, that nothing is automatically and inevitably beyond the scope of human intelligence — this is the procedural and operational continuity that is accepted by the modern naturalist.

Positivism

It must have been noticed that this discussion of naturalism has been taking us out of the realm of traditional metaphysics and steering us nearer the field of natural science. But before we finally turn to an examination of the over-all relations of philosophy to science, there is one other approach that may still be handled under the general heading of metaphysics.

At the opening of the present chapter, we had occasion to remark that the traditional metaphysician is not impressed by the scientific answers to his fundamental question, What is the nature of reality? He wants something more basic, something with more *meaning,* than he thinks he sees in the ordinary framework of natural science. But the typical scientist (if there be one) would be still less impressed by questions of metaphysics, especially if the scientist ranked himself as a *positivist.* His position would be that the questions of metaphysics are simply meaningless. They

are neither good nor bad, simple nor profound; they are merely non-sense. And the reason is that they try to go outside human — at any rate, scientific — experience. They are beyond experience, they are not empirical, they invoke the transcendental.

In the words of Karl Pearson:

> Now one of the idiosyncrasies of metaphysicians lies in this: that each metaphysician has his own system, which to a large extent excludes that of his predecessors and colleagues. Hence we must conclude that metaphysics are built either on air or on quicksands — either they start from no foundation in facts at all, or the superstructure has been raised before a basis has been found in the accurate classification of facts. I want to lay special stress on this point. There is no short-cut to truth, no way to gain a knowledge of the universe except through the gateway of the scientific method. . . . The poet is a valued member of the community, for he is known to be a poet; his value will increase as he grows to recognize the deeper insight into nature with which modern science provides him. The metaphysician is a poet, often a very great one, but unfortunately he is not known to be a poet, because he strives to clothe his poetry in the language of reason, and hence it follows that he is liable to be a dangerous member of the community.[19]

A contemporary positivist, the late Moritz Schlick, criticizes the necessarily inoperational character of metaphysics by insisting that

> . . . Determination of . . . ultimate meaning is always the result of an *activity*. This activity constitutes the essence of philosophy; there are no philosophical propositions, but only philosophical acts.[20]

When the metaphysician proclaims mind or matter to be the elemental stuff of existence, what operations, asks the positivist, does he suggest to verify his hypothesis? If he proposes no opera-

[19] From *The Grammar of Science* (Everyman ed., New York, E. P. Dutton, 1937), p. 20.

[20] Preface to *Problems of Ethics* (New York, Prentice-Hall, 1939), Rynin translation.

tions (except his own personal intuitions or private logical demonstrations), his hypotheses and his problems have no meaning whatsoever. But if he does propose acceptable operations, then his ideas leave the realm of metaphysics and philosophy to be tested as any scientific hypotheses are. The positivist, thus, is not necessarily a naturalist. (And the scientist as an individual can be anything he chooses — sometimes a fundamentalist.) For even the neo-naturalist makes metaphysical statements, if only lukewarm ones. He tries to describe and limit the universe in certain general ways. Positivism is apparently not interested in the business at all.

PHILOSOPHY AND SCIENCE

To turn from metaphysics, let us go back to an earlier suggestion which coupled philosophy with human curiosity. That suggestion, of course, did not imply that there was anything peculiar to philosophy in its reliance upon curiosity. As a matter of fact, the study of any one of the sciences could be introduced in almost the same way, by an appeal to man's inquiring mind. Furthermore, the very qualifications given to philosophic curiosity — complete, systematic, even "pure" — would apply almost without amendment to scientific questioning as well. However, the insistence upon the *total* aspect of philosophic curiosity may serve to introduce one contrast between philosophy and science, that of evaluation.

It is true that curiosity about all things may be regarded as a handicap. The philosopher has very often been pointed out as a jack-of-all-trades and consequently a master of none; he is not regarded as having any special subject-matter of his own or any particular method of approach. But it can be argued that the very indefiniteness of philosophy qualifies it to act as a critic. This is simply to suggest that if philosophy is not limited to some single set of data that must be discovered and checked, if it does not need to direct all its energies down one line of attack, then it may perhaps be set free to examine the assumptions and first principles of

science. It may revel in an unrestricted curiosity. Since it has no business of its own to mind, it can mind other people's business. This is not entirely facetious, for does not Socrates still stand as almost the symbol for philosophizing, a Socrates who certainly made himself a public nuisance in minding other people's business? Philosophy is indeed revealed by its eternal questioning of the meaning and significance of things, and it can be insisted that emancipation from some specialized field of inquiry is a formidable asset instead of a dangerous liability.

Philosophy as Evaluation

If science can be understood very broadly as the joint process of discovering and verifying facts and of making them available by means of systematic organization, then, in the same broad sense, philosophy can best be grasped as the appraisal and judgment of those facts. This does not mean that philosophers discover no facts or that scientists are not critical of their values. The present discussion will insist repeatedly that the distinctions between philosophy and science are blurred at almost every point; that whatever differences there are involve difference in emphasis rather than in essence; and that those differences are not necessarily between men (since any one man can, indeed must, be sensitive to both enterprises), but rather between general interests and approaches. Philosophy and science are at all times very close; and they must continue to be drawn together rather than thrust apart. Yet they are not the same thing, and one significant contrast between philosophy and science is to be located in the place that values occupy in each. (In the social sciences even this contrast is blurred to the point of being almost unrecognizable.)

To illustrate: A nuclear physicist is engaged in researches on atomic energy. The time is before the momentous summer of 1945. *As a physicist,* his problem is clear: to devise techniques, such as those of cyclotron and betatron, that will release the energy in

atomic nuclei and make it available for human use. How those techniques have worked is now, of course, a matter of front-page journalism: neutrons, uranium isotopes like U_{235}, and the rest have become almost household words. So far the problem has been one of physics, of science. The *purpose* for which atomic energy is to be released is not a problem for the physicist in his capacity as a physicist (physicist *qua* physicist, as philosophers say). Whether it be used to turn those energies into ways of peace and to bring about an industrial revolution fantastic in its possibilities for good, or whether those energies will help to blot man from the face of the earth — these alternatives are not strictly scientific ones. True, the physicist is also an American, a Republican, a Presbyterian, and a Mason; in addition the father of four children. The physicist who is a physicist and nothing else is a caricature — and, if real, would be a dangerous fanatic. As a man and a citizen, our experimenter can and should be interested in the uses of the energy he has helped to bring forth: the protests of scientists who have discovered atomic energy (and now seem overwhelmingly sorry that they have) have been filling the newspapers and the halls of Congress.

The point should be clear, even if examples of it are always artificial. It is simply that the physicist in solving his physical problems has no need to introduce data that are not factual or descriptive. The scientist (up to now) has always insisted that his methods must not be confused by the introduction of purposes and goals. That scientists are now becoming vitally concerned with the social implications of their discoveries does not make them *ipso facto* philosophers; but it does point to a difference in emphasis, the difference between descriptive material and the "moral" interpretation of that material.

Again, an investor is interested in making profit. As an investor, his problem is likewise clear, although far from simple — to buy in the lowest and sell in the highest market, to secure a certain dividend or interest rate without at the same time jeopardizing the

security of the principal. Once that problem is met, the factual question of finance is past. But does the particular bond or stock decided upon represent an industry with a notorious labor policy, or does it contribute to the output of yellow journals or pulp fiction? These are *different* questions. They introduce considerations quite other than those of investment science, considerations which must be labeled moral or critical or evaluative. They indicate that the whole situation is not necessarily exhausted by the discovery and verification of data. Once more, the investor is an entire man as well as an investor. But when he begins analyzing criteria and norms, when he raises the often embarrassing question, what for? — then he is engaging in a different enterprise from that of investing money.

We are saying, then, that science is concerned with a descriptive approach, and philosophy with an interpretative approach, to what may very well be similar material. A shift of emphasis is involved. But we are not saying that values (philosophy) and facts (science) therefore constitute two dimensions; nor are we saying that values are unapproachable through scientific method and facts devoid of interpretation. Philosophy and science diverge because they use different operations and they enjoy varying degrees of verifiability. These differences, however, are matters of gradation rather than of essence. That is, values are facts, no matter how you look at them: they "exist," they must be taken into account, they are a natural and continuous part of the world of human events, and their meaning and verification are established by the same general procedure that applies to facts. And facts themselves are shot through with evaluations: they are selective, good for something, discovered or invented by men, and are of importance as their acceptance or rejection affects human interests. These statements are being made rather abruptly; their elaboration is the subject of a later chapter. Their purpose here is to correct a possible misconception that may result from the present attempt to make a

broad distinction between philosophy and science. That distinction is one of emphasis, with philosophy stressing the interpretation, and science the description, of data; it does not set up, however, any permanent divorce between the two.

The Analytical Relation Between Philosophy and Science: The Investigation of Assumptions

The relations between philosophy and science can now be examined in some detail, the examination taking the familiar form of presenting first the "analytical" and then the "synthetic" aspects of the problem.

"Analytic," of course, suggests taking apart, reducing to elements, looking for simple common denominators. It implies the search for fundamental constituents, for foundations and beginnings. How, then, can philosophy "analyze" science? To what can science be reduced? Certainly this reduction would have to reach down for the most basic concepts, concepts without which no scientific enterprise could function. We do not mean something like atoms which, after all, are highly specialized and sophisticated ideas. The word "assumptions" perhaps signifies the type of unit which seems to be involved in analysis of this kind.

There are many synonyms for assumptions — axioms, first principles, postulates, and the like. Behind these there is no subject-matter whatsoever. For every science has to start somewhere. It cannot work out of a vacuum, or spring, fully-armed, from some Jovian head. If deductive in emphasis, like mathematics, a science must rest upon specific definitions, axioms, and postulates. Without such general statements it has no place to begin operations. But with them, the science has a foothold, however slender, and a starting-place. The most familiar example of such a reliance upon assumptions is clearly Euclid's plane geometry. Given simple yet quite arbitrary (and somewhat mythical) definitions, such as those of point, line, plane, plus a listing of certain fundamental opera-

tions, Euclidean geometry has a foundation upon which to build. And a different foundation of assumptions would give a different structure — even a tyro in mathematics has at least heard of non-Euclidean geometries.

If a science is inductive in emphasis, relying apparently upon data, "facts," and observation for its beginnings, it still is in no way independent of basic assumptions. At the very least there must be an acceptance on the part of the scientist of the processes of observation by which factual data are made available. There must be reliance upon human sense organs and upon the instruments which extend them; there must be an avowed faith in the reality or in the meaningfulness of the cause-and-effect relation and in the order and uniformity of nature; there must be a recognition of some kind of value in the behavior which scientists manifest. These would all be examples of assumptions, the great majority of them unrecognized, or, at any rate, not given much serious attention. It is precisely this kind of material that provides both the basis and the need for philosophic analysis.

It should be superfluous to note that "assumption" here implies nothing illegitimate. The popular use of the term in which "assume" is placed in contradistinction to "know" is deceptive. Assumptions are vital in all fields of human knowledge. Without them science — and common sense as well — would have neither foundation nor source. But their operation must be made articulate. We must become conscious of them, and more sensitive. This is the analytical function of philosophy. It is to promote an organized awareness that there are many unanalyzed postulates at the root of all our thinking and all our knowledge; and to emphasize the indefinableness and, in many cases, the downright incomprehensibility of concepts that direct our very lives.

Illustrations may be found in almost any place we look. For it is not simply the scientist who erects his structure upon deep underlying assumptions; the so-called common-sense realm itself is in

no way different. That "things" are what they seem and that our senses are reliable; that space and time are really "there"; that other human beings act as we do because their "minds" are similar to ours; that the future will be more or less like the past, and that our "personalities" will carry on relatively unchanged from day to day — these are all essentially great acts of faith, practical, necessary, and almost completely undemonstrable. The word "faith" is used here deliberately because we rely upon our "self-evident" (and therefore unscrutinized) truths with as much fierce strength as the religious devotee depends upon his dogma. We are confident that food will continue to nourish and not to poison; that the automobile approaching will remain on its side of the road; that the jaunty pilot of the airplane in which we ride knows what he is doing; that the villainous-looking, black-mustachioed barber to whom we trust our jugular vein will not let his razor slip. We are confident — yet in almost no case do we even try to justify our faith, even to become conscious of it. Perhaps it is well that we do not.

Neither can the scientist be expected constantly to be aware of all the implicit bases of his work. He is ordinarily engaged in descriptive activity; for example, the gathering of data, the diagnosis of problems, the verification of hypotheses. Indeed his effective activities as a scientist might be jeopardized by worrying about the fundamental meaning and limitation of his basic assumptions. The efficiency of a chemical experiment would in no way be improved by introducing for discussion the general problem of causality. In most cases it is downright necessary for the scientist to mind his own business — the business of facts. But there is hardly a scientist worth his salt who does not have his philosophical moments; moments, that is, when he asks fundamental questions about the concepts he customarily takes for granted.

What are such concepts? In many ways they are the same as those on which common sense itself rests. That the future will be

more or less like the past; that we can trust tomorrow what we trust today; that the sun will rise in the morning because it always has — here is a type of assumption vital, universal, and completely unprovable. For the future will remain the future; even when predictions about it are "verified," they are verified because the future has already become the present. The character of a really basic assumption is that it is "self-evident," universally accepted, yet not susceptible of any satisfactory proof. For instance, there is no way of knowing now that the future will not be totally unlike the present, that all our natural laws will not end at sundown. We do not take the possibility seriously, and no one intends that we should. But it is a possibility, and therefore binding statements about the nature of the future must be regarded as assumptions, however fruitful and unescapable they may be. They are like the famous Euclidean axiom that "things equal to the same thing are equal to each other." No one would question this, and all can illustrate it. When one tries to prove it, he will find himself immediately involved in a logical circle that leads to certain dizziness.

That nature is uniform; that given causes will produce given effects; that a small sample of nature can be used as the basis for valid inductions about the whole of nature; that there are indeed reliable samples of a world whose immensity extends far beyond the possibilities of human knowledge — here is another cluster of basic assumptions which the scientist constantly employs, and must employ. Then, there is the assumption that man really can know the world outside his skin. But that problem, the problem of knowledge (epistemology), is so persistent that it needs separate discussion, as in the following chapter.

The analytical relation of philosophy to science is, then, the examining and clarifying of assumptions. Science becomes philosophical when it becomes self-critical. This task can be performed by either the scientist or the philosopher; there is no sharp distinction between the *persons* involved. It is perhaps better to

speak abstractly of "science" and "philosophy" in this connection than to personalize them, for critical investigation is open to anyone who is competent and interested. The realization of the presuppositions, the unanalyzed notions, techniques, and methods of science; the consciousness of the limits of scientific problems — these interests may stimulate any intelligent person. The labeling or pigeonholing of the investigator is immaterial.

The Necessity for Criticizing Assumptions

It is true that in the historical relations between science and philosophy, the philosopher seems to have been more interested in this critical investigation of assumptions. (Perhaps he has had nothing else to do!) But in the last half-century or so the analytical relation of philosophy to science has captured the imagination of scientists themselves, and the contemporary concern with "philosophy of science" is largely the result of a common activity on the part of both professional philosophers and scientists — at least of philosophers with scientific training and inclination, and of scientists with philosophic appreciation and background. There is good reason why this joint interest should be flourishing today. For one thing, the fact that this is the great scientific age — and one that is only beginning — has made men wish to examine science more critically. Without such an examination there is real danger that science may become an ideology as unthinkingly worshiped as any of the human dogmas. That this worship has in some way already come to pass may be indicated by the salaams to Science — usually represented by impressive-looking gentlemen in white surgical coats — performed in the advertising pages of women's magazines. In them, sex, bowel regularity, and financial security are successfully sold by chanting, What Science Proves. Unless the scientist is willing to understand and to reveal his foundation-postulates he becomes the priest of the advertiser and the propagandist.

But there is a much more dramatic reason for the present-day self-consciousness of science. It may be banal (but no less significant for that) to point to the exquisite instruments of destruction and death that science has provided us, and to the social anarchy and incoherence which, in the past, it has apparently ignored. The atomic bomb has now made the tragic paradox of science commonplace — the paradox, that is, of science preparing its own collapse by undermining the only type of society in which it can possibly exist. Refusal to examine the assumptions upon which all science rests means at the same time a refusal to inquire what science is for. Of course, in the last few desperate years — even before August, 1945 — scientists were becoming more and more sensitive to the all-important question, "Knowledge for what?" Stimulated by men like Bridgman in physics and Lynd in sociology, they were no longer taking the scientific enterprise for granted. This self-criticism is crucial, for it tends to break down barriers, not only between natural and social science, but between philosophy and science themselves.

Finally, a scientific generation dominated by the "new physics" cannot afford to ignore a systematic inspection of its premises. The background was prepared in the nineteenth century by mathematics, particularly by the non-Euclidean geometries. For the examination of postulates, such as the famous parallel postulate of plane geometry, to cite a familiar example, is precisely an illustration of what we mean by the philosophic questioning of assumptions. It will be remembered that a well-known Euclidean postulate is that through any point, one, and only one, line can be drawn parallel to another line. Anyone knows that that is so. But a number of Russian and German mathematicians almost a century ago experimented with other assumptions about parallel lines. For example, why not assume that through any given point no lines can be drawn parallel to another, or that an infinite number of lines may be so drawn? These may have seemed outrageous assumptions, or at best,

playful. Nevertheless, they provided a firm basis, as Einstein has testified, for the relativity theory. To be sure, the men who were engaged in this kind of work were technically mathematicians and not philosophers. That is merely a question of names and classification. As a name, philosophy should be no more august than any other name. What the non-Euclidean geometers were doing, just as what Bertrand Russell, Whitehead, and others have been doing since — that is, the investigation of and experimentation with different sets of axioms and postulates — *is* the philosophy of mathematics.

The same is true in physics. Again, it is clear that Einstein, Planck, Dirac, and the rest are physical scientists, not officially philosophers. Yet their problems have been unquestionably philosophical, since they have dealt with the most fundamental and general concepts — those of space, time, motion, causality, infinity, and the ultimate nature of matter and energy. Revolutionary work in these fields has fundamentally changed some of the older "classic" concepts of Newtonian physics. Thus, the modern reconstructive work in mathematics and physics (and the same observation would hold true, in varying degrees, for other sciences as well) has revivified the questioning of all basic assumptions. Upon such questioning rests philosophy's analysis of science.

The Synthetic Relation Between Philosophy and Science: Historical

Where analysis takes apart, synthesis is supposed to put together, to organize, to make wholes out of parts. Traditionally, this was the operation philosophy was expected to perform upon science. To understand this, it must be realized that until comparatively recently in the history of European culture there were no fixed boundaries between philosophy and science. With the Greeks *sophia* (wisdom) was the thing to love, and it did not much matter whether it concerned itself with perfect cities or poetry or stones. Plato was not a scientist when he wrote a dialogue on the

origin of the world any more than he was a philosopher (in the modern sense) when he composed the *Republic.* Aristotle was competent to discuss all subjects. Mathematics alone — that is to say, geometry — was probably given a specialized position and was supposedly a requirement for entering Plato's Academy. But the ancient Greek thinkers would not have understood our decisive amputation of the sciences from philosophy.

The same blurring of such a distinction reached down to the very beginnings of the scientific revolution. Philosophy was still the general love of knowledge and anything was grist for its mill. In the Middle Ages, it is true, theology branched out as a separate, and then more important, discipline. But it was the encyclopedism of the medieval scholastic that is significant in this connection. Saint Thomas Aquinas, for instance, could write about literally everything. He ranged from an economic theory of interest to proofs for the existence of God. Nothing human (or superhuman) was alien to him: all knowledge was to be summed up.

It was not until three or four centuries ago, only yesterday in human history, that what we know as experimental, laboratory science first began to assert its independence. We little realize how young is "science." Even throughout the scientific revolution, less than four centuries ago, it would have taken an oversubtle classifier to separate a philosopher from a scientist. Men like Descartes, Boyle, and Galileo (who wrote that he had spent more years on metaphysics than months on mathematics) were intellectual giants who were philosophers or scientists, depending on how we now regard them. The same was true even of Leibnitz and Newton, who were still living in the first quarter of the eighteenth century. Between "philosopher" and "scientist" the distinction was blurred.

That distinction, however, was to formulate itself rapidly. In the revolutionary sixteenth and seventeenth centuries the specialized sciences budded and grew and dropped from the parent stem of philosophy. Beginning with astronomy and mechanics, the process

has continued to the present day, with psychology and the social sciences being the most recently emancipated. The names "natural philosophy" (physics) and "mental philosophy" (psychology), which are still occasionally used, indicate the historical connections.

That science did develop out of philosophy is important in casting light on one of the traditional functions of philosophy; it is all but worthless as the basis of inferences suggesting some alleged superiority of either philosophy or science. What is that traditional function of philosophy? It is the so-called synoptic vision, the insistence that some source of orientation must give organic unity and coherence to the possibly chaotic results of the separate sciences, that some discipline must tie up loose ends and try to prepare a *Weltanschauung*. The word "traditional" has been used here to indicate that this classic interpretation has in present times undergone distinct amendment. For when one man, devoting his entire life to one small branch of one section of one science, cannot completely master it, there seems to be something rather bald, not to say impertinent, in the philosopher presenting himself as the unifier and organizer of all the sciences. In fact, Herbert Spencer, more than a generation ago, may be regarded as probably the last synthesizer of this literal type. (He defined philosophy as completely unified, science as partially unified, knowledge.)

The Importance of Philosophic Synthesis

Yet even if the Spencerian ideal of philosophic synthesis seems no longer plausible (the ideal, to exaggerate it unduly, of packaging the different sciences in one neat bundle with a ribbon around it), the assumption behind such a synthesis can be disregarded only with great risk. That assumption indicates a striving to see the forest as well as the trees, to gain perspective and harmony, to organize and unify as well as to discover. Such a striving must in some way be preserved if for no other reason than that it provides a corrective for the distorting effects of overspecialization. This is a

hackneyed observation, but one that must be made repeatedly. The chemist who knows nothing but chemistry and the accountant who is limited to his ledger are perhaps caricatures. But they are nonetheless symptomatic of the formidable dangers resident in the education and thinking of a highly technical civilization. Sensitivity to wider horizons, consciousness of the urgent need for fusion, are avenues of approach to science that must be kept open: philosophy seems to be the most appropriate organ for such sensitivity.

There is no reason, then, for deflating the synthesizing claims of philosophy. They may have to be redirected but they cannot be ignored. Even the diverging historical roads of philosophy and science do not cancel the significance of some great terminal of ideas. Return, for example, to William James's statement that "philosophy is the name for unanswered questions." The point he was making is simple; there is nothing mystical about it. As the separate sciences developed, especially throughout the sixteenth and seventeenth centuries, they answered questions that men had asked, questions about motion and force, about the growth and reproduction of animals, about earth and the heavens. Questions that remained unanswered remained (historically) in philosophy. Thus, quite literally, philosophy became the name for unanswered questions, since the questions that found answers were adopted by one or the other of the rising young sciences. The residue was philosophy.

The Great Unanswered Questions

A very transparent implication would seem to follow from such a development of interests; that is, that science and philosophy must vary in an inverse ratio — the more science, the less philosophy. Given a steady increase in scientific knowledge, philosophy would gradually disappear. This is perhaps too easy to see through. Without trying to preserve any vested interests of professional philosophy (and most philosophers would readily admit that they

have no privileged claims anyway), it may be pointed out that this inverse-ratio implication makes at least one questionable assumption, that the more problems science answers, the fewer are left for speculation or further inquiry. The reverse of this appears to be the case. Socrates was right once more when he argued that the beginning of genuine wisdom is the realization of ignorance — the more we know, the more we realize how much we do not know. The truly modest men today are in fact the natural scientists themselves, especially the physicists. At least they are modest in admitting — rather in insisting — that they are meeting problems which are as staggering as any man has ever conjured up. The modern physicist, for instance, is more tolerant than his predecessor a generation or two ago, more tolerant of speculation, even of what would be called metaphysics. He would be the last one to argue that increasing knowledge in the physical sciences has precluded the raising of more and more unanswered questions.

We are learning more about the universe: in the last half-century greater progress has been made in the physical sciences alone than in all previous human history. The nature of the fundamental particles of matter and energy, the mathematical framework of space and time, the distribution and organization of star systems, the laws of cause and effect themselves — data about all these are piling up at an incredible tempo. Yet no less bewildering are the questions which are also piling up: Is the stellar universe expanding or contracting? Are space and time themselves but dimensions of a more remote framework? Is the universe causally determined throughout, or are the laws of cause and effect statistical in nature, great probability equations? Instead of being eliminated, questions like these — many of them downright unintelligible for the nineteenth century — are deliberately encouraged; they are increasing steadily. Exciting vistas open as knowledge grows, and curiosity feeds on curiosity.

Even if it is possible for man to imagine that his queries in the

area of natural science will some day all be answered and that therefore philosophy, "the name for unanswered questions," will presumably have quietly evaporated, what about man's questions in ethics, in politics, in economics, in the general field of social science? In these days of reconstruction and revolution it should provoke a smile even to pose the issue. This is not the place to elaborate that issue, for the problem presents itself again and again in the present work; in fact, it constitutes the principal *leitmotif.* But it should always be appropriate to keep reminding ourselves of the unanswered questions of the social world, not simply as a check upon our possible pride of scientific accomplishment elsewhere, but as a stimulus to redirecting our thinking. Here are the great unsolved problems; and that is why many modern philosophers (like John Dewey, for example) have kept insisting that the present function of philosophy is to co-operate with the social sciences in helping to answer the riddles confronting human society.

These riddles suggest the place for still another synthesis, the joining of scientific procedure with philosophic evaluation. A truly significant human synthesis cannot limit itself to integration of factual material alone. The data of values, of human hopes and choices, must become a living part of the whole complex of intelligence in action. Such intelligence is neither science nor philosophy; it is a striving to fuse data and meanings, the facts of nature and the equally relevant facts of man and society. The need here is for an *attitude* — call it scientific or philosophical — that can function in any area of experience. Cultivation of such an attitude might ultimately turn out to be not merely the unifier of science itself, but, of much more importance, the cement that alone can hold together the data of science and the critical judgments of philosophy. It is this exciting hope that keeps the synthetic relation of philosophy to science from being simply the presumptuous invention of some overambitious thinker, and that makes the discussion of the relations between science and philosophy, between "nature" and "values," more than an academic exercise.

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Chapter Four

PHILOSOPHY, HUMAN NATURE, AND VALUES

EVEN WHEN PHILOSOPHY is interpreted as an examination of nature, we have seen that it is not therefore free of the human element. Metaphysics may well be the core of philosophy, as some have argued, but it is not an objective study of the world for its own sake; instead, any investigation of reality — even a scientific one — is inextricably tied up with values.

The whole philosophic enterprise, however, may be directly and deliberately focused upon man and his problems. This does not necessarily mean the concentration upon social affairs, although they may indeed be regarded as the central issue of all human thought. It may mean rather a concern with a number of classical philosophical questions, questions involving, not the structure of reality itself so much as man's knowledge of nature, his methods of reasoning about the world, his subjective reaction to what is happening outside himself, and his attempts, through religion and the fine arts, to mold the world (of nature) nearer to the (human) heart's desire.

EPISTEMOLOGY: THE PROBLEM OF KNOWLEDGE

An outstanding illustration of the infectious human factor is found in that division of philosophy called *epistemology*. Offhand, epistemology can stand for "the problem of knowledge," just as metaphysics symbolizes "the problem of reality." The relation between the two should be clear even from these phrases. For how

can we really know anything about the world unless we know something about knowledge itself? The tools for handling reality must themselves be scrutinized; the methods we use to make judgments about the universe require critical appraisal. It is not simply, then, the presence of values that prevents nature from being cut off from man: the very phenomenon of experience itself draws him into the most intimate and subtle contacts with this "nature," and philosophy, ever curious, discovers fascinating problems in the relation-of-knowing between man and the allegedly objective world. What are some of these problems?

Epistemological riddles have proved a rather mixed blessing to philosophy teachers. For one thing, they undoubtedly have helped to interest some students in philosophy, since the difficulties presented are often novel and occasionally prove to be exciting or, at least, tantalizing. But, at the same time, they can lead to amused impatience, if not frustration, as the student is drawn into paradoxes that appear insoluble to both himself and his teacher. The following discussion may be no exception to this, although all it intends to do is to show how a famous problem has opened up the whole field of epistemology.[1]

How We Know

It is customary at this point for the philosophy instructor to indicate "that tree out there." (Philosophy classrooms must always be provided with a tree outside the window.) Then follows a detailed explanation of just what is involved in our awareness of the tree; the point of this is to show the amazing intricacy of even the apparently simple act of vision, and particularly to demonstrate the crucial part enjoyed by the human mind.

The drama of perception begins with the play of light upon the

[1] That the entire problem of epistemology is based upon a dubious assumption, and that the "problem" itself can be discounted, will be suggested later. See *infra*, pp. 144 ff.

object. Most of the light is reflected — some of it being absorbed — and of the reflected light a part reaches the eye. Already one whole area of physics has been introduced to describe the transference of light energy from source to object to person. By the time light reaches the eye the fields of optics and physiology are called into action. The light wave (assuming the wave theory of light, now partially suspect) passes through the transparent cornea of the eye, on through the pupil and lens, to the retina, where it stimulates specialized sense cells, the rods and cones. At this point psychology joins with physiology to account for the conscious response made to the retinal image of the tree. We are told that a neural impulse, chemical or electrical in nature, originates in the sensitive cells of the retina and is transmitted, via the optic nerve, to the brain — rather, to a specialized part of the brain, the visual area in the occipital lobes of the cerebral cortex. And then we see that tree out there. To be sure, this summary account fails to indicate many aspects of what may seem already an ingenious affair; it says nothing, for example, about the familiar distinction between sensation and perception, which would indicate that an object like a tree is to us a complex of an entire series of past experiences, in which not simply the visual areas of the cerebrum are implicated, but the association and speech centers as well, not to mention possible motor and affective activities throwing into action the entire nervous system.

But why does this process of sensation-perception so fascinate the epistemologist? The reason should be clear. The simple act of looking at a tree, of coming into contact with this plain bit of "reality," develops into a highly complicated function whose purpose is to register an image of the tree upon what we call our consciousness. The only way of coming into contact with that object "out there" is through this image "in here," this carefully developed representation, the end-product of a clever chain of physical, physiological, and psychical events. It must be made clear at this point

that epistemology is not conjuring up the whole situation. The problem of knowledge may seem sharper and more interesting to the philosopher than to others, but the preceding report of what goes on when we see something is good science and good common sense. The long-suffering "man in the street" might not be able to indicate all the steps or to remember all the names were he questioned by a Gallup survey investigator about his opinion on vision; nevertheless, he would unquestionably agree that in some way the tree makes an impression upon his mind, that in some way he carries about with him a copy of the tree in his head, and that he knows the real tree by means of this tree-image. The example of a camera taking a picture would impress him as a very good analogy of the affair. In other words, the layman would not boggle at being told there was a *real* tree (T_1) that produces an *image* of the tree (T_2) in his head; he would cheerfully confess to being a dualist here, or — perhaps more cheerfully — a common-sense realist.

How Do We Know That We Know?

Enter the epistemologist. Up to now, philosophy has had no part in the process of perception. The process of seeing an object (and, it should be evident, the same general psychophysical process is present in all the other avenues of sensation as well) has been described by science and accepted by all of us, with philosophy in no significant way being concerned. But philosophic curiosity does become extraordinarily concerned with the problem of the two alleged trees, T_1 and T_2. This is the root of the problem of knowledge. For how can we be sure that the image of an object (T_2) is a correct copy or report of the object itself (T_1)? The image is internal, the object external; the image is the result of an intricate series of physiological and mental acts, the object is aloof and entirely unaffected by being perceived; the image is part of human consciousness, the object of physical nature. These distinc-

tions, of course, are entirely too severe. (In a later context they may even appear quite illegitimate.) Yet they should begin to indicate the area of epistemology. How can we compare the conscious response of perception with its physical stimulus? How can we be confident that our sensory knowledge — to go no farther — is trustworthy?

A student who has not yet become sensitive to the argument that is developing here might answer: Go to the object itself. But *what* would we go to? To touch the tree is not to discover T_1. The result of our touching is still a sense-impression, the function of a tactile instead of an optical sensory nerve, but none the less an impression in human consciousness. It is not easy to escape from that consciousness! Yet that is what such a student would be demanding. He would apparently be satisfied only by a direct comparison of T_1 with T_2, which would mean nothing less than mounting to some Jovian point of view and looking down at the "real" world to see if it indeed coincides with the world in our heads. We cannot get out of our heads. We cannot by our bootstraps pull ourselves out of the world of our experience into a world beyond our experience to make a comparison between the two. At least, that is the argument of the traditional epistemologist. Karl Pearson, the eminent English scientist and philosopher, described this present problem by likening human beings to the clerk in a central telephone exchange who never has left and never can leave the exchange, and who therefore knows nothing about the "outside" world except the voices and sounds which come over his wires. He is imprisoned within his telephone building. Just so are we the prisoners of our minds. To test our knowledge, then, by going *beyond* the field of knowledge is not allowable.

A second argument might go something like this: Granted that we cannot get out of our heads to compare the real tree with our tree-images, nevertheless we can validate our knowledge by checking with other persons. If all of us are in reasonable agreement,

we can be sure that our ideas of the tree are correct facsimiles of the "real" tree. This is a familiar argument, and it includes a number of fundamental assumptions. In one sense, however, it still seriously misapprehends what is being outlined as the problem of knowledge. To compare your idea of the tree with my idea is *not* to compare either idea with its source. In no way has such an act of comparison escaped from the realm of subjective sense-impressions. Even waiving for the moment the tantalizing problem of whether we ever *can* compare one person's idea with another person's, this approach by way of public agreement does not meet the epistemological puzzle. To put it more specifically, should we expand T_1 to W_1 (that is, "the real, objective world of physical things") and T_2 to W_2 (that is, "the world of our ideas and sense-impressions through which alone we know W_1"), then to compare my idea of anything with yours would be to compare my W_2 (say, W_{2a}) with your W_2 (say, W_{2b}). W_1 is still untouched.

Further Complications

But even if it seems to sidestep the problem of knowledge, the appeal to common corroboration is important in emphasizing that the epistemological puzzle by no means constitutes a public issue! That is, no "practical" difficulty — to fall back upon a threadbare adjective — is presented by a refusal to reconcile the two trees. True, we may all be driven to confess that we are indeed prisoners within W_2, but we get along quite nicely, thank you. As long as we all agree in language and action, there is no problem. It is only when what you call a tree is to me an elephant, or when you climb an elephant's leg to pick apples, that I begin to wonder. And the chances are that my wonder would not be epistemological.

Despite the solid common sense of this attempted waiving of a famous problem, the refusal to worry is not altogether satisfying. Certainly it would not satisfy anything that could be called curiosity. Indeed, the very fact that the problem of knowledge can so

blithely be ignored is doubly stimulating to the philosopher; it is but one more illustration of the failure to notice the obvious. We live successfully enough in a world of sensory impressions. It is apparently only a sign of eccentricity to become excited about the *cause* of those impressions, to wonder whether we can ever break through the screen of our ideas. Were there no indication that W_2 was not a faithful copy of W_1, perhaps the problem — although it would not disappear — would remain a "theoretical" one with little concern for most of us. Fortunately or unfortunately, we seem to know that in some ways the two worlds *must* be different. Moreover, these indications are not from philosophy: once again, they are acceptable and respectable hypotheses of natural science, and are fairly familiar material in the realm of common sense.

Color vision is the example usually presented first. Should we return to our tree and inquire about the greenness of its leaves, we should be told by the physicist that the light reaching the tree and being reflected from it consists of different wave-lengths, some long, some short; some, therefore, reach the tree with low and others with higher vibration frequencies. He would insist quite strongly that the only way light is differentiated is in terms of physical properties like wave-lengths, vibration frequencies, or, in certain circumstances, corpuscular activities. It is not differentiated physically in terms of color. There are no "red" light waves (or corpuscles), and no green or blue. Psychologically we react in terms of color vision. The longer wave-lengths of light (with slower vibrating frequencies) are perceived by us as the red series, the shorter ones (high vibrating frequencies) as the violets, with green somewhere in the middle range. (A similar analysis would hold of air waves and sound sensitivity.) The physicist would go on to say — and most people would follow him quite easily — that there are any number of wave-lengths longer than the "red" (infra-red) and shorter than the "violet" (ultra-violet) to which we are not sensitive at all in terms of color, although they are manifested to us in other forms

— *x*-rays, radio waves, and so on. We are sensitive only to what we call the seven basic colors of the spectrum, and our sensitivity is dependent on the structure of our retina and nervous system — so, therefore, is the color.

The subjectivity of color — sounds, odors, and tastes are, of course, in the same category — is perhaps familiar enough to require little further exposition. However, if additional illustration is necessary, we might turn, for example, to comparative color vision among animals. We know that mammals below the level of man and the anthropoid apes are deficient in color vision: they (bulls included) see only the neutral grays extending from white to black. How do we "know" this without performing the fascinatingly impossible task of projecting ourselves into, say, a dog's head? Simple objective experiments of conditioning will give us what evidence we need. Any normal dog will soon learn (be conditioned) to react positively to some symbol associated with feeding and negatively to a sign standing for pain. If a black disk becomes the mark that accompanies meat, and a white one goes with the tingle of an electric shock, the dog will very quickly be conditioned to salivate at the sight of the disk even without the meat, and to whimper at the white before any current reaches him. Try the same simple experiment with red and green symbols (of equal brilliance) and there are no results — except, perhaps, to make the animal neurotic. Similar experiments with other mammals seem to show incontestably that man and the higher apes alone are sensitive to the full range of spectral color, although certain birds and insects have apparently developed a specialized sensitivity to particular light areas, especially the yellow and blue series. Histological examination of the rods and cones of animal retinas tends to confirm such a judgment. (It need not be added that in other modalities of sensation, notably smell and hearing, man is quite deficient as compared with other animals.)

Another example of color subjectivity would be the common-

place phenomenon of color blindness. The point here is not that some five per cent of all men are partially color blind, but that, of such a large number, only a few are aware of it. Unless a man is almost totally color blind, the chances are that he has been able to get along with only slight embarrassment; and when he happens to be given one of the objective color-blind tests, he is often outraged to be informed that he cannot see distinctly red or green. He will insist that he can pick out the reds and greens among a group of colors, and, in fact, he will be able to do a fairly good job of matching and naming. Why? He simply has been conditioned to call color x "red" and y "green." He has learned that grass is green and corn yellow, that roses are red and violets are blue. He has formed the right name-habits. But if he is color blind, he cannot possibly have the same experience as a normal person when looking at a leaf on a tree. Both, without hesitation, will call it green, but that reaction is purely verbal. The "semantical referent" for the normal person is what ninety-five per cent of men and practically all women experience when they see green; the color-blind person sees something, perhaps a dull blue, but certainly not "green."

Once More: How Do We Know That We Know?

This brings us directly into the heart of epistemology. For is not the color-blind person (before he becomes aware of his failing) in precisely the pre-epistemological position of most of us? Unless he is a serious case, he has got along comfortably: there has been little or no "practical" difficulty. Yet he has been mis-seeing an entire area of visual experience — without being aware of it. He has lived intramurally in his W_2 world of sensory perceptions; now he learns that in some way it has not been a correct report. But the ninety-five per cent of "normal" men are in exactly the same predicament when they think about the "color" of W_1 — which world, remember, is, for common sense, the "real" world.

The physicist tells them that color is psychical, not physical; the dog might report that all is gray and the butterfly that all is yellowish-gold; and then Superman, whose vision reaches beyond the normal spectrum, would assure them that the green leaf on the tree is really *x*, a color never seen on land or sea, or even in the poet's dream, the supercolor we shall see when our nervous systems develop into supermaturity. What color *is* the leaf? The question answers itself, if we have been convinced that color vision is subjective and relative: the leaf "really" has no color unless an eye co-operates. Therefore, in this respect at least, W_2 *cannot* resemble W_1. For one is colored (as we experience color) and the other is not. We could easily add: one has sounds and odors and tastes; the other is silent, cold, and valueless.

All this would seem to follow once we accept the bifurcation of the alleged W_1 and W_2, and this cutting-in-two is accepted by most men. The epistemologist is simply showing the implications which follow after it is granted that there are two dimensions, one a representative of the other. Once such a division is made, there must be a problem of knowledge, and, like Humpty-Dumpty, it will take many king's men to put the two worlds together again.

The epistemological game would be just beginning were this section intended to be a survey of the field rather than a brief introduction to problems and vocabulary. We could return to our tree, for example, and inquire whether we see it right-side-up or up-side-down. The retinal image, to be sure, is inverted just as is the image on a camera plate; most people know that. Moreover, there is no optical way for that image to be "righted," once the retina and optic nerve have been stimulated. Nor is the central nervous system normally concerned about giving us the "right" reaction to the tree. As before, there is no "practical" problem here because, so long as we all agree on what up and down mean, there can be no difficulty. But there still is a problem if W_2 is regarded as the copy of W_1, for to get used to an inverted world is not tantamount

to knowing the "real" world. Neither would it help to learn that experiments going back a generation or more have disclosed that we can get adjusted to the inversion of our present image-system. The wearing of prism lens spectacles, which can invert the normal image, has indicated that persons do, with some difficulty, become adapted to a demonstrably up-side-down world. The point, therefore, is not whether the world of our perceptions has indeed its right side up, but rather the interesting observation that W_1 can remain whichever way it pleases: we simply get used to our W_2 even when it performs double or triple somersaults! For that matter, our eyes in the course of evolution might well have developed another lens which would have reinverted the retinal image. Of course, we should not know the difference; but what does all this imply when we understand W_2 to be a facsimile of W_1?

One final illustration: The arguments thus far have all been taken from the sense of vision, although it has been noted that the other secondary — that is, subjective — senses of hearing, smell, and taste lend themselves to similar interpretation. But for most persons this concentration on the intangible sensory images will be unsatisfactory. To touch something, to feel its solidity, to bang on it (the tree, once more) with one's fist — that seems a substantial guarantee of getting into direct contact with W_1, the "real" world. Doctor Johnson thought so when he kicked a stone to refute the idealistic arguments of Bishop Berkeley. But common sense, even in the person of the good doctor, is a little naïve in this hope. It is the scientist again, not the epistemologist, who disillusions us. The tree is solid to our touch, but that solidity, we learn from physics, is a function of our crude sensitivity; it is not a report of "reality," since the tree, like all matter, is reducible to particles — to molecules, to atoms, and finally to the electric charges of proton, electron, *et al.* Were our sense of touch more highly developed, were our fingertips super-sandpapered like those of notorious safe-crackers, then, perhaps, the tree would disclose itself to our fingers

as it "really" is, and we should feel the pulse-beat of molecules, the dizzy dance of atoms, the tingle of electricity, for *physically,* they *are* the tree. The tree of W_1 is, then, the subject-matter of physics. Its solidity and the fact that it seems discontinuous — that is, sharply cut off from other objects (although a hypermicroscopic report of the boundaries of tree and air would show a continuous interchange of particles, with no definitive dividing line whatsoever) — are psychological, the products of the peculiar sense organs that we possess. To feel the tree is to come no more into contact with the "real" object than to see the greenness of its leaves or smell the fragrance of its blossoms. Epistemology will not leave us a way out. To perceive a thing is automatically to change it. Knowledge must distort.

With deliberately extreme statements like these we can come to the end of our present discussion of the problem of knowledge. The effort throughout has been to indicate what the philosophical term "epistemology" refers to, or, more specifically, to what classic philosophical problem it points. In another connection later we shall have occasion to return to this traditional separation of W_1 from W_2, this divorce of the two trees, and perhaps try to cast some suspicion upon the significance of the epistemological paradox.[2] Here the effort, however, is one of exposition rather than criticism.

Epistemology and metaphysics, then, are two grand divisions of philosophy. One deals, roughly, with how we know about nature, the other with what that ultimate reality is like. The two are closely connected. Which should come first? That is not an easy question to answer. Logically, it might be argued that before we can make judgments about anything, we have to be aware of our judging instruments. Epistemology is a part of philosophic methodology, and many simple reasons could be given for first making

[2] See *infra,* pp. 144 ff.

sure of (or, at least, worrying about) one's methods of approach before using them. However, historically, that has not been the case. The earliest Greek philosophers, some centuries before Socrates and Plato, were interested in what nature was like, and they paid scant attention to problems of knowledge. Despite much epistemological work of Plato and others, it can be said that of the two, metaphysics has claimed the initial interest of philosophy. It was really not until the period of modern philosophy — which goes back some four centuries or more — that the problem of knowledge has come to bulk so large in philosophical speculation. In fact, the famous German thinker, Immanuel Kant, writing at the end of the eighteenth century, could go so far as to say that he was the first deliberately to criticize man's reasoning powers as a preliminary to metaphysical argument. Epistemology has seemed to result from a secondary and critical reaction to the more urgent philosophical demands of understanding the universe around us. But there are other phases of philosophic methodology — *logic,* for example.

LOGIC: THE PROBLEM OF THINKING

Logic has just been mentioned as akin to epistemology in its methodological character, since it is interested in man's most significant tool for solving problems, his reasoning powers. Like epistemology, it, too, is an examination of man himself rather than of the nature of things. It is also an examination of certain phases of knowledge, although concerned more with the validity of man's thinking than with the trustworthiness of sensory perception.

The word "logical" is familiar to everyone. (That is one reason why only a mention is being made here of logic as a division of philosophy. A more significant reason is that the following chapter is devoted entirely to a discussion of thinking.) To recognize that one statement depends for its correct meaning upon another, to

understand when a conclusion follows from other propositions or premises, to be able to make accurate generalizations from a group of data — these would be rightly called logical processes. The thing to note here is the factor of judgment and evaluation: "correct," "validly," "accurate," are terms indicating values. Logic is not just a description of how we think: that would be more peculiarly one of the problems of psychology. Instead, the *standards* of what constitutes valid inference or sound generalization are the proper scope of logic. These standards, to be sure, must depend upon the facts of human thought that can be learned from the life sciences, but the approach of logic to reasoning is a good illustration of the difference in emphasis between philosophy and science.

The scientific handling of thinking would be to report what happens when man engages in this particular activity, to note the proper stimuli and responses, to check the physiological and neural, the vocal and sub-vocal, changes involved, to discover, where possible, the emotional and social factors that have conditioned the procedures and results of human thought. To the scientist, "wrong" thinking, even pathologically, or primitively "wrong" thinking, would be of equal significance with the more acceptable patterns of reflection. The philosophic attitude should not be regarded as smug if it emphasizes the "principles and problems of *right* thinking," or talks about "*reliable* knowledge." Supplementing, not ignoring, the factual contributions of psychology, logic proposes to evaluate the enterprise of thinking, to criticize its techniques, and to make judgments about its results. The job is a necessary one, even if it may sound presumptuous. It is the kind of job that philosophy in all its branches must be expected to do. At least, if "philosophy" does not do it, some other discipline must. Somebody or other has to worry about what thinking is for and judge when or if it reaches its goal.

This preliminary mention of the function of logic would suggest that it overlaps two major areas of philosophy. The methodological

aspect has already been noted: here logic has connections with epistemology, since both are interested in the instruments of knowledge. The other phase of philosophy represented by logic is the realm of values. In its concern with "right," "reliable," "good" thinking, logic is inevitably tied up with great sections of philosophy, especially with ethics.

AXIOLOGY: PROBLEMS OF VALUE

The general enterprise of philosophy is intimately bound up with the whole area of human evaluations, but in a discussion, such as this, of the terminology and the divisions of philosophy, we must delimit fields like *ethics* and *esthetics* as particularly concerned with problems of value. The term "axiology" has recently come into some use as a general word standing for this area of philosophy, just as metaphysics and epistemology and logic stand for other classic philosophic questions. Such a single word would be definitely helpful, although there is some doubt whether axiology will be that word. (Again, as with logic, only a cursory outline is being presented here of ethics, because much of the second half of the book deals with ethical matters.)

Even if a satisfactory term were to become acceptable, the subject-matter of values would still revolve around the more homely words connected with ethics and morals. Not that those well-worn terms are models of philosophic vocabulary. On the contrary, the distortion of the names used in the field of value is nothing short of scandalous. The very words "ethics" and "morals," especially the latter, have come to connote something sugary and sticky. "Morals," at least in this country, is almost invariably associated with only one of the Commandments, and that one in terms of Hollywood variations. A discourse on morals invariably calls up the odor of a chapel talk on sex hygiene or a temperance lecture. It might be fair to add, however, that students do seem to distinguish between "ethics" and "morals," reserving the former for less

intimate matters. For example, they are inclined to speak of the ethical or unethical nature of business competition, but of the immorality of a libertine. (In philosophy the two words mean practically the same thing: one simply is Greek in origin, the other Latin.) But where, as in our larger cities, the sign "Ethical Druggist" means a place that does not sell sandwiches or bathing-caps; and when, as until recently, a social science lost its academic respectability if discovered to be "ethical," some renovation in vocabulary seems imperative. Even the noble word "good" has fallen into evil ways — it becomes a sign of contempt or condescension ("yes, my *good* man") and often implies that nothing else of worth can be said of a person.

The amazing shift in the usage of ethical terms (consider how the word "virtue" has changed its meaning from its earliest Latin implication of masculinity to the present connotations) has placed an onus upon the field of ethics that is difficult to remove. There is nothing essentially namby-pamby or syrupy about ethics — or even morals. Problems of personal conduct, to be sure, provide the core of this philosophical dimension, but there is literally nothing in human experience that is left outside the dimension, nothing that is exempt from the operations of human choice. The kind of approach which sees in moral philosophy nothing but preachment and exhortation — or even puritanism — is criminally short-sighted.

It is not easy to be modest when describing the field of ethics. Modesty would suggest that ethics be defined strictly as the branch of philosophy dealing with the principles and problems of human conduct. Yet what could be omitted from even such a description? Human conduct is not limited to what has come to be known as "moral" questions. All human behavior is sensitive to judgments of "better" and "worse," "right" and "wrong," "higher" and "lower." There is almost nothing that does not impinge upon our sense of values. For example, the general field of religion itself

could be considered a phase of axiology. Its logical development — that is, the various systems of theology — would undoubtedly be regarded as a separate area of speculation, but the worth of religion, the vision of the world that it unfolds for us, the particular interpretation of experience that it is responsible for — these are matters of high moral decision. Indeed, much modern religion is deliberately limiting itself (if it can be called a limitation) to being a "way of life," a philosophy which, if it still retains them, uses the supernatural and more traditional paraphernalia of worship as elements of grand moral strategy. Religion is pre-eminently and peculiarly an aspect — for many, the most precious — of human evaluation.

The field of values could also encompass the whole area of the social sciences. (Even the natural sciences can no longer be regarded as immune to the process of evaluation.) This is a rather controversial point that will be returned to in a number of connections later on. Here it may suffice simply to mention that "knowledge for what?" is (*a*) an ethical question, since it clearly introduces the problem of human choice, and (*b*) it is the most important (perhaps the only important) question that can be asked by economics and politics, by education and the law. Unless these social studies carry with them a fundamental human relevance that can justifiably be called moral, they quickly become supremely insignificant. Statements like these are admittedly dogmatic; further consideration of them will come later. The point here is to indicate how truly vast is the material of *ethics.*

At first sight, *esthetics* does not seem to offer such a tantalizingly wide perspective, since its subject-matter is more clearly delineated — the human values connected with the meaning and interpretation of beauty; beauty in nature and in the fine arts. (The Greek trilogy of values — the Good, the True, and the Beautiful — would thus be complete.) It can be classified as a phase of axiology be-

cause, like ethics, it is an affair of human values. But a further view of esthetics would reveal that, despite the more technical nature of its problems, it soon passes beyond the bounds of philosophy and therefore has an extent and an impact that other philosophical questions lack. For example, esthetics would require investigations like these:

A psychological analysis of what happens in the individual when he reacts to stimuli that are judged "beautiful" or "ugly," an analysis worked out in terms of feelings, emotions, energy releases, overt behavior; in short, the anatomy of what is meant by an esthetic experience.

A technical analysis of the stimulus as well as a psychological appraisal of the response, which would demand principally a detailed description, along the lines of art appreciation methods, of what we objectify as the cause of our experience of beauty. What is the precise kind of object, in nature or in the arts, that provokes our esthetic responses, and why do its particular characteristics have such an effect upon us?

A social interpretation of the fine arts, since there is more to the explanation (or "justification") of art than psychological or technically esthetic elements. Some of the questions here would be: What are the arts for? Do they have ethical, political, therapeutic ends, or are they for their own sake (whatever that means)? What is their anthropological and sociological history? What of the fine arts as a social institution?

Beyond material such as this, there still would remain in esthetics problems of a more strictly philosophical nature. They would be concerned chiefly with what might be called the "metaphysical status of beauty." "Metaphysical status" in this particular area refers ordinarily to the objective or subjective character of the human value called beauty (although such status could easily become a caricature as in the familiar story of the German philosopher who wrote volume after volume on the "Metaphysics of Beauty,"

but who had no interest in or liking for literature, music, painting, sculpture, the drama, or any other concrete expression of his worshipfully abstract Beauty). Is beauty only in the head of man, or is it an attribute of the nature of things? Is there one absolute Beauty, pure and undefiled, as Plato said, or is beauty relative and dependent only upon taste, about which there is no arguing? Do we create beauty, or is it stored up somewhere in heaven? Similar queries, of course, can be raised about the Good — should it be regarded, for example, as a noun, especially a capitalized noun? — or any other human value. Indeed, the epistemological problems of the objectivity or subjectivity of secondary qualities like color and sound are cut from a like pattern of philosophical inquiry.

Esthetics, therefore, could become as philosophical and involved as any other branch of speculation. In recent days, however, it has tried to avoid some of the pitfalls of what is regarded as traditional philosophy, and has concentrated on matters of art appreciation, psychology, and social significance.

Philosophy and Art

But the relations between philosophy and art go far beyond the possibly specialized questions of ethetics. Those relations disclose an aspect of philosophy quite different from the critical and logical one revealed, say, in comparing philosophy with science, an aspect that may help to give a completer picture of the whole philosophic enterprise.

For philosophies themselves may be understood as works of art. Perhaps they are great dramas of ideas, symphonies — as it has been expressed — with the cosmos as their theme, trying to give expression to some penetrating vision of experience, to some new pattern of things; and the vision and the pattern may have to be judged, not by criteria of truth and literalness, but by those of esthetics. Perhaps the function of philosophy is to formulate a way of looking at the world, or rather a way of arresting the world so that it may be looked at with taste and discrimination.

There is nothing "effete" in such an esthetic view of philosophy, nothing that necessarily connotes dilettantism or mere playfulness. Nor is this interpretation an "artistic" one, limited to the dimension of critics and men of letters. Vision and perspective are inescapable ingredients of any philosophy. A "grasp of the whole," a "seeing things together," a subtle sensitivity to certain highlights and shadows of the world, the intensification of unsuspected precious elements, the sudden seizing and sharpening of elemental values — these *are* philosophy. They are as essential as the critical and analytical appraisal of facts and thinking. It is when philosophy and poetry actually coincide, in form as well as in subject-matter, that the philosophic vision becomes incandescent: it flames out in a Plato, Lucretius, or Santayana, in a Dante, Browning, Hardy, or Blake, in Dostoievsky or Thomas Mann. Here is no "long-standing quarrel between philosophy and poetry."

Even when there has been no formal harmony between art and philosophy, even where there is little poetry — sometimes actual barbarism — in the written words of an Aristotle or Spinoza, a Kant or Hegel, still the very sweep and grandeur of their philosophic worlds testify to an artistic imagination profound and marvelously developed. Think of Spinoza's conclusion to Proposition XI, Part I, of the *Ethics* — "Therefore God necessarily exists, Q.E.D."! Is not this sheer poetry? The majesty of a statement like that, not to mention its impertinence, is a glorious flight into regions where esthetics, not logic, must reign. Or the march of a Hegelian Dialectic — does it not demand the strains of martial music? Philosophy and art are indeed bedfellows, and not strange ones.

This suggested coincidence of art and philosophy may be illustrated in a slightly different way by the meaning of the word "classic." Without engaging in any of the controversies of literary or esthetic criticism, one can still use the concept of the classic in a fairly intelligible way: it certainly implies, for one thing, that

the work of art to which it refers has a longtime interest, has stood the test of time — to employ a much overworked phrase. But that simply pushes the meaning one step back, for why do classics last a long time?

The simplest answer would be that there are elemental aspects of human personality which seem to be relatively permanent. True enough, human nature does change, and radically so. Yet a core of unchangeableness, largely emotional and appreciative in character, remains fixed. We react the same in many situations as did our ancestors centuries and centuries ago. We laugh at the same jokes and smirk at the same bawdiness (*Lysistrata,* written by Aristophanes for the Athenians of 411 B.C. can still call for SRO on Broadway). We understand the domestic situations of Homer, and are sensitive to the wrath of Achilles.

Great philosophy, as great art, is also classic. There appear to be certain permanent ideas and problems, possibly emotional as much as logical in nature, which keep their freshness from age to age. Some of the ideas, to be sure, have been kept artificially fresh by copious dippings into the academic stream. But the giant philosophic minds have reached rock-bottom in many places, the rock-bottom of human response to the universe. Deep and lasting human moods are touched by philosophy as by art. The somber and despairing temper turns to Schopenhauer as it does to Poe and to James Thomson (*The City of Dreadful Night*), and for the yea-saying of Whitman in poetry there is the health, the sanity of William James in philosophy. The sublimely unendurable moments of the third act of *Tristan und Isolde* are what, through a feebler instrument, the mystical philosophers have forever been asking us to experience. Ecstasy is not peculiar to Beethoven's listeners nor to the viewers of the Parthenon in moonlight: it belongs as well to the sensitive readers of Plotinus or Bergson. The intuitions of man — whether valid or pathological is of no moment here — the sudden classic glimpses of what is unutterable, are the

precious ultimates of philosophy no less than of great art. Philosophy is indeed the art of expressing the meaning of the world and its people.

RELIGION AND VALUES

The meaning of the world and its people — such certainly is the theme of any discussion dealing with philosophy, human nature, and values. It is a theme that perhaps can best be concluded by addressing ourselves to the perennial human enterprise of religion, since in religion above all does man strive to decipher meaning in the universe and in his fellowmen.

A similarity between philosophy and religion would become evident at the very mention of the joint questions raised by both of them. What is the world like? How is it run? Is there a guiding force behind it? What is man's place in this world? How does he come into the most fruitful relations with it? Is the universe foreign or friendly to his interests? What should be man's moral responsibilities to other men? So phrased, these queries might be either philosophic or religious.

So far as subject-matter is concerned, then, there is much in common between the two. Historically they have in large part developed together. There have been periods, and not simply primitive ones, when philosophy and religion could scarcely have been differentiated. Indeed, for some sixteen centuries, from the dominance of the ethical and religious philosophies of the Alexandrian Age to the decline of the "Christian Epic," it would have taken a precise cataloguer to say what was religion and what was philosophy. This historical juxtaposition was not always a welcome one to either. But the contrast between philosophy and religion cannot easily be found either in their subject-matters or in their history. It lies rather in their differing methods of approach to similar material.

Different Approaches

It would of course be rash and overblunt to pronounce that philosophy, like science, relies upon reason, and that traditional religions turn to faith and feeling. Especially would this be too sharp a division, since it has just been pointed out in the preceding pages that philosophy has much of vision and prospect in it, and these are not necessarily rational. But with all due regard for qualification, there does appear to be a large difference between philosophy and religion, a difference in methods of approach. The word "difference" is important here. To be different is not inevitably to be better or worse. All moods are not the same, and subjects can be viewed in contrasting perspectives. Saint Paul and Seneca, the Roman Stoic, had a notable correspondence, some of which is still preserved. They wrote about the same problems and they had very similar views. Yet the styles of their writings have almost nothing in common. One was the fiery advocate, the proselyter, the propagandist — even the advertiser. The other was calm and austere, forbidding and aloof. The writings of Paul could — and did — arouse the millions: the Stoic wrote largely for philosophers. It is not easy to say which man was "right."

Nothing is being foisted upon customary religion when its approach is shown to be that of emotion and feeling, the very antithesis of disinterestedness. This primacy of sentiment and of faith is the theme of profound works in theology as well as of many popular sermons. "What shall I do to be saved?" is still the basic question that religion must answer. To answer it means to get under the skin, to advocate, to convert, to do missionary work. It means an appeal to the millions, not simply to an intelligentsia. The elemental, direct, mass movement is that of religion, or, to be more exact, of the religious institution.

Almost the reverse of this is the critical path of philosophy — which is not to say that philosophy is always coldblooded or that religion uses no logic. Some philosophy is clearly authoritarian;

more of it is patent rationalizing. Also, in its varying theologies, religion has constructed rationalistic systems as rigorous as any logician could demand. Yet, the chief aim of philosophy — whether or not it is always reached — is to criticize the assumptions and principles that men rely upon, to criticize them by reflective thinking techniques, by scientific methods, by the use of tested and objective procedures which at least try to discount both emotional and dogmatic elements.

The general aim of organized religion, on the other hand, is frankly to persuade and to direct the individual, and the devices used are avowedly those that promise to be successful, whether or not they are rational. The famous statement, "I believe what is impossible," may be an exaggeration, but it is in no way foreign to the religious enterprise. That men need and want miracles (which was the Inquisitor's complaint to Jesus in the unforgettable tale in Dostoievsky's *Brothers Karamazov*) would not astonish institutionalized religion.

It must be insisted once more that, despite some of the connotations implied by these statements, the point here is neither to condemn nor to praise. That would be a typical act of philosophic impertinence. Indeed, an attack upon the alleged emotional aloofness of philosophy would itself be very appropriate; perhaps, at times, philosophy's pride in intellectualism has been false and sterile. Furthermore, it might be no less plausible to find strength in religion's insistence upon emotion (action) as over against reason (hesitation), and in its reliance upon faith. The maxim, "I believe in order to know," becomes less notorious when one sees similar (although much more subtle) assumptions of scientific method itself. This is not meant to confuse the issue. There are large methodological differences between philosophy and religion, but that does not imply (*a*) the necessity for preferential choice of one over the other; or (*b*) that the two are entirely discontinuous. As with the relations between philosophy and science,

here, too, there is blurring at the boundaries. The cores of philosophy, religion, science, and the fine arts may be independent of each other; but there is constant overlapping at the peripheries, an overlapping that requires no discouragement.

Different Attitudes

It is not only general methodology that tends to distinguish philosophy from religion. The fact that religion is concerned with persuasion and direction indicates that its attitude is largely one of promise. Western religion can be regarded as essentially hopeful. This does not mean that there is no morbidness in it; Christianity, especially in its more dour forms, has no illusions about man's life on earth — or in hell. Some Oriental religions, notably Buddhism, are based on beliefs far from cheerful. But even when religion does not see ultimately a friendly universe, it sees at least a universe that recognizes the existence of man and takes him into account, if only to plague him. Man is not a cipher in the scheme of things; he is not an orphan in the storm. He must feel at home in the universe, not lost in an aloof and meaningless void. There is a sense of dependency in nearly all religions: man cannot solve his problems independently of some cosmic, essentially supernatural power. The eternal stage directions have been written, and they make the world a set on which a drama is being played, and man (that is, his soul) is the central character. That is why at least Western religion is fundamentally confident. It holds forth a promise of recognition.

Philosophy and science also help man to understand, and therefore to become adjusted to, the universe. But they can make no promises. If it is not too paradoxical a thing to say, they are not, in this respect anyway, as "practical" as religion. By practical here is clearly meant the satisfaction of man's emotional and wishful nature. Religion promises man salvation, immortality, heaven; or, more modestly (and perhaps of more weight), it promises him a

life on earth free of frustration and meaninglessness. The significance of man is celebrated by religion. Philosophy and science may themselves be illustrations and proofs of man's significance, but they cannot guarantee that their results will be emotionally practical. Man may well find himself deflated. But religion undertakes to transform and illuminate man. That is its chief goal.

There seems to be still another fundamental difference in attitude between philosophy and religion. It would be too simple to say that religion postulates a world, supernatural and divine, that lies beyond the present one of our sensory experience. Many philosophies do that very thing themselves, although, it must be added, such philosophies (extreme forms of idealism) purport to reach that conclusion through logical argument rather than by means of emotional compulsives. It is rather that religion insists upon worship of that divine and supernatural realm. Man is obligated to worship: he has a debt to the unseen powers. That temper of mind is ordinarily foreign to philosophy. Even if the philosopher is convinced that the nature of the world is closely akin to that believed in by most religions, he is not necessarily moved to veneration. His task is primarily that of understanding or vision, not of praising or condemning. Once more, this objective attitude is not being proposed as better or worse than the more immediate and impressionable reactions of religion. The supposed objectivity of philosophy may prove to be a serious handicap in moving men's minds and actions. The point is merely that there is a critical divergence to be found here: religion, unlike philosophy, is compelled to make direct and — if it is not too strong a word — passionate judgments about the world, particularly about the world that transcends ordinary human experience.

Toward a Definition of Religion

One imperative qualification must now be added to this whole argument. In contrasting philosophy with religion, the extreme

positions of each have been assumed in order to simplify (undoubtedly oversimplify) the point in question. This has been especially true in the rather loose use of the word "religion." The implications of the word as it has been employed in the preceding paragraphs have been rather obvious: they are to the effect that religion means not only the organized religious institution, but the orthodox religious institution as well. That is why, the adjectives "traditional," "customary," "organized," and "institutional," have been used. Perhaps such inferences are inevitable in speaking of religion in general terms: some established church or creed seems implicitly intended. The entire complex of meaning which is attached to the words "religion" and "religious," however, is certainly not exhausted by the social institution of a church. This is not the place to enter into a lengthy discussion of the various definitions of religion. There are many definitions. They range from the frankly institutional approach to that, for example, of William James in his famous *Varieties of Religious Experience,* in which he describes religion in purely individualistic terms:

> The pivot round which the religious life, as we have traced it, revolves, is the interest of the individual in his private personal destiny. Religion, in short, is a monumental chapter in the history of human egotism. The gods believed in — whether by crude savages or by men disciplined intellectually — agree with each other in recognizing personal calls. Religious thought is carried on in terms of personality, this being, in the world of religion, the one fundamental fact. Today, quite as much as at any previous age, the religious individual tells you that the divine meets him on the basis of his personal concerns.[3]

Religion here implies an individual experience, semi-mystical in nature, moral in direction, but having nothing necessarily to do with church or doctrine.

[3] William James, *Varieties of Religious Experience* (New York: Longmans, Green & Co., Inc., 1938).

This attitude, with particular emphasis upon the ethical elements involved, appears to be more and more characteristic of contemporary religion, at least of what can be called the modernist and progressive trends. Religion is becoming for many persons today an ethical way of life, a philosophy of morals and of conduct; more than that, it is becoming also a social philosophy. It is necessary only to refer to the humanistic movements in present-day religion to see how significant this is. There are many different groups and ideas which are coming to be considered as part of modern humanism, and they do not always agree. Yet, in general, the emphasis of the movement is upon methods of rational thinking, upon rededicating the findings of science to human, ethical ends, upon an increasingly liberal attitude in economic and political affairs. A few quotations from the *Humanist Manifesto* of 1933 may make the point clearer:

> . . . Religion consists of those actions, purposes, and experiences which are humanly significant. Nothing human is alien to the religious. It includes labor, art, science, philosophy, love, friendship, recreation — all that is in its degree expressive of intelligently satisfying human living. The distinction between the sacred and the secular can no longer be maintained.
>
> Religious humanism considers the complete realization of human personality to be the end of man's life and seeks its development and fulfillment in the here and now. This is the explanation of the humanist's social passion. In place of the old attitudes involved in worship and prayer the humanist finds his religious emotions expressed in a heightened sense of personal life and in a co-operative effort to promote social well-being. . . .
>
> We assert that humanism will: (*a*) affirm life rather than deny it; (*b*) seek to elicit the possibilities of life, not flee from it; and (*c*) endeavor to establish the conditions of a satisfactory life for all, not merely for the few.[4]

[4] O. L. Reiser, *Humanist Manifesto* (Yellow Springs, Ohio, Antioch Press, 1933).

With this kind of approach, then, our earlier dichotomy between philosophy and religion (or even between science and religion) becomes very unclear. In fact, a synthesis of philosophy, religion, and science is precisely the goal of the humanists today (the signers of the *Manifesto* are men from all these fields and others as well). Their argument is that human problems, particularly in the field of values, demand continually renewed effort from man's intelligence. Unless those problems can be solved, man himself seems doomed. Therefore, to such solutions all his energies must be directed, and no artificial barriers can be allowed to interfere. If the visions and the values that religion professes are to become more than pious hopes, they must ultimately mesh with the methods of philosophy and of science.

Religious Motivation

One final point needs to be made. Where is the motivating power in a humanistic religion? Is it not cold and cheerless? Is there any emotional or real religious warmth in it? Can a person be driven to action by a philosophy or a religion that repudiates a flight to the supernatural?

The first observation that can be made in this connection is one of anthropology and history. It is simply that there is no object or event or process that may not deeply stir the emotions. Emotional commitments have been made to everything possible or impossible in human experience, to the evil as well as to the good, to the unprintably obscene as well as to the holy and sacred. This ubiquity of emotional direction is almost the theme song of anthropology. Therefore, there is certainly no *a priori* disqualification of thinking and scientific inquiry as sources of even religious zeal. Emotional commitment can be made to intelligence as it can to superstition, to nature as well as to the supernatural.

But that is too passive a way to put it. A more positive observation would accept what has been said of John Dewey, that unless

there is "devotion so intense as to be religious to intelligence as a force in social action," men will never solve their problems. This introduces the distinction that Dewey and others have made between religious and religion. The former has connotations such as we have been speaking of — commitment, motivation, emotional stirring. They can be absent from no philosophy or way of life that is worth considering. Yet too often these stirrings have been deflected to the service of the most absurd, not to say vicious and dangerous, ends. To turn them to man and his reconstructive powers would seem not only eminently sane but entirely feasible.

The Promethean way of life, as Charles Morris has called it, is what is intended here. This takes Prometheus as its symbol — or possibly Faust, or even Adam as the token of a (dangerous) search for the knowledge of good and evil. In Prometheus seizing fire from the gods we have the picture of man as a Maker, as a technologist, as a transformer. We have commitments arising from a number of daring assumptions, such as the plasticity of man and of nature, and the possibility of a continuous reconstruction of the world, both physical and social. For Prometheus brought his fire to men; he did not keep it for himself. The humanist is fully aware that scientific method requires co-operation, that the transformation and reconstruction of nature demands communal participation. There is a mighty social significance to intelligence as a tool.

Finally, the humanist in religion believes he has indeed found the tool through which to effect this reconstruction — the critical, tentative, self-corrective, and tolerant use of scientific intelligence. He can and does get excited about its possibilities — religiously excited.

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Chapter Five

REFLECTIVE THINKING

A NUMBER OF TIMES in the opening chapters, assertions have been made about the significance of reflective thinking and of scientific method. They have been presented, not merely as a procedure that tends to unify philosophy and science, but as an instrument that should provide orientation for the whole enterprise of human intelligence, that may even furnish themes for a religious humanism. There will be a number of attempts to justify and illustrate those assertions throughout the remainder of the book: the present chapter will provide a background for those attempts by giving an exposition of reflective thinking, one designed to show particularly the coincidence of such thinking with the recognized methods of science.

WHAT DO WE MEAN BY "THINKING"?

It is not easy to say what the word "thinking" brings to mind these days. Possibly the word may now have recaptured some of the magic it was able to evoke in times past when man was actually defined as the thinking animal and a literal Age of Reason was applauded. That onetime worship of intelligence, however, used to be regarded by the emancipated souls of the nineteen-twenties and thirties as something old-fashioned, smacking of the eighteenth century. Behaviorism and psychoanalysis, among other things had been the tools of emancipation. World War I also helped to disillusion. Man was the neurotic animal, the rationalizing animal: the twentieth century, unlike the eighteenth, was to

celebrate man the irrational, the wish-fulfiller; man, the dupe of his emotions and his complexes.

This disenchantment, of course, has by no means evaporated. But perhaps it is a little early to characterize the twentieth century in terms of a retreat from reason, or anything else. The emancipated ones seem themselves a little old-fashioned today, for they were before totalitarianism and World War II. The point is simply that if ideologies played a part in the fighting and the winning of the war — as they most certainly did — then fascist rationalizing itself has become outmoded (a statement that must seem outrageously casual as we remember the terrible years behind us). And it was fascism that demanded we "think with our blood," that glorified the emotions (particularly the wrong ones) and the mystic intuitions, that ridiculed thinking as bourgeois, decadent, and democratic. It was fascism that deliberately paraded the rationalizing of what we wanted to believe and meant seriously what it said about Nazi science and Nazi truth. It was fascism that capitalized on our cynicism about human intelligence.

The aim of this argument is not to torture ourselves with the memories of a prodigiously horrible nightmare. Nor is it to assert that the democratic powers have been the unsullied defenders of human thinking, much less to insist that the war was fought only to reaffirm the right of free thinking in the world. The reason for this kind of introduction to a chapter on logic is rather to notice that thinking has had its ups and downs, not only in the course of centuries, but in the last generation or two as well; and that it is therefore difficult to identify the contemporary attitude toward it. (The whole picture is still more confused by those who are insisting today that, although man must truly rediscover the glories of reason, it must be the Reason understood and practiced by Aristotle and the medieval philosophers.)

A sound approach to thinking would seem to demand avoidance of both worship and cynicism: human reason is neither to be bowed

down to nor regarded with contempt. It is a device that man has developed and has used, sometimes well, sometimes poorly, to help solve his problems.

But the term "thinking" as it is used in our everyday language is certainly not limited to problem-solving. The word has become a symbol for almost anything that goes on in our heads. It is practically a synonym for being conscious. Just consider the host of significations contained in familiar remarks such as: "I'm thinking of you all the time." "I was thinking the other night of the far away and long ago." "I thought I recognized him, but it must have been two other fellows." "I can't go to sleep at nights because I'm always making pictures in my head—I'm forever thinking of something, most of it very foolish." "If you knew the answer, you wouldn't have to think!" "I just thought of an ingenious way to wake up painlessly these early mornings." "I think you're the prettiest girl in all the world." "I must think up a plausible excuse to get out of the house tonight." So, "thinking" occurs in our vocal speech an amazing number of times. To become sensitive to this, take an actual count of how often you hear the word in the course of even the most casual conversation.

Unreflective Thinking

Therefore, "thinking" must be qualified, since it is used so loosely that it can mean almost anything—day-dreaming, imagination, "wishful" thinking, rationalizing (that is, "finding good reasons for doing bad things"), belief as opposed to knowledge, esthetic judgment, memory, and much else as well. There is almost nothing we cannot "think" of, and, as John Dewey has said, if we offer a penny for your thoughts, we really do not expect to strike much of a bargain.

This kind of indiscriminate thinking is not wrong. To be sure, it occupies an enormous share of our time (again, to become convinced of this, make a rough survey of how often during the day

you day-dream — even outside of class and the library), but, unless in some pathological way we become fixated to our dreams and our too-easy, wish-fulfilling daytime reveries, there is nothing to worry about; indeed, if we did not dream in the light, we would be cabbages.

Yet if thinking is to be analyzed, some discrimination must be made; the entire area of consciousness cannot be included. Therefore, for purposes of discussion, thinking can be divided simply into *unreflective* and *reflective* thinking. One whole area of unreflective thought would be that of which we have been talking — day-dreams, reveries, and the rest. It may be called "fantasy." Once more, to call these experiences unreflective is arbitrary and implies nothing derogatory. It is no more than a matter of classification that may permit more concentrated attention upon reflective thinking.

There is another large area of unreflective thinking that may be termed, also arbitrarily, "custom." This would cover habitual, more or less routine, responses to various situations; responses, however, that are conscious and articulate — "thinking" may be a broad term, but not broad enough to include even the unconscious mechanical reflexes. For example, in politics we think as Republicans or Democrats — or as Marxists in Russia, but is not most of that thinking a reflection of our environment, our families, our friends? If we are honest about it, we should admit that most of our thoughts about moral problems depend on whether we were brought up in Sauk Center or Greenwich Village. What about the great share of our thinking in religion or in the field of modern art? Is that not also determined largely by the thoughts of those around us?

Customary thinking is thus another way of saying that much of our alleged thinking is authoritarian. Just as we dress or eat or talk, so we think the way we have been taught. Customs of the mind are formed as other customs are, by deliberate training and,

more, by unconscious patterning. In any case, although man may have developed the (good) habit of thinking during the course of his evolution, much of that thinking must still be regarded as unreflective because it is uncritical and almost automatic. Once more, there is nothing particularly wrong in such customary thinking; it carries us more or less successfully through what otherwise would be tedious routine, and it is even capable of solving—or at least of indicating—problems. But such activity cannot correctly be termed reflective, for whatever reflective may mean, it is neither uncritical nor automatic.

REFLECTIVE THINKING

When, then, does thinking become reflective? Why is not all our conscious life confined to fantasy and custom? Certainly they are less trouble. No one has to urge us to day-dream or to follow habit patterns: they come very naturally. But we do have to be counseled to think—reflectively. It is assumed to be hard work, even unpleasant. (More than that: would anyone ever admit, if asked what he did last night, that he stayed at home and *thought*? To read or to listen to the radio, yes; but to stay at home and think! —that has something drolly introverted about it.)

This assumption that thinking (and from now on, whenever the work "thinking" is used without an adjective, we mean reflective thinking) is onerous may help to introduce the cause or stimulus for thought, because it seems to suggest that we think only when we have to. And when do we have to think? When we are confronted with a problem, when some difficulty forces us out of our customary ways of responding. Perplexity, doubt, indecision—these are the very creators of human thought. Without them, there would be no occasion to stop day-dreaming or to challenge habit and authority; neither would there be any reason to continue thinking when it became arduous. Problems provide not only the initial impetus to thought; they direct and steady its course, and

set up the goal of each thinking process — the solution of the difficulty that stimulated it.

Almost any event can act as a motivator of thinking. Whatever sets us to doubting what up to then had been taken for granted is a thought stimulus. A problem situation will not, of course, automatically coerce us to think. Doubts can be resolved by flipping a coin or by continuing our usual habit patterns. The opportunity to think can always be passed over. Or, to put it in the form of a logical proposition: although thinking depends upon a problem, all problems do not force us to think. Many of them, from trivial everyday acts to moments of great emergency, can be met — and handled — by blind, impulsive, "instinctive" behavior. Such behavior, however, is always precarious when addressed to a genuine problem. What, then, is a genuine problem?

John Dewey's example of the "forked-road situation" has by now become a classic. Simple and homely, it nevertheless contains all the essential elements of a genuine problem. We walk along a road and come to a fork in it: which turning should we take? Were there no branching of the path, we should continue on our way, pleasantly day-dreaming or perhaps thinking reflectively about something not connected with the walk. Or, if ours were an aimless stroll and we did not care where we went, the fork would not present a problem; we could go either way as fancy directed, or, for that matter, even retrace our steps. To make the forked-road situation the setting for a genuine problem and therefore the stimulus to thought, there must be what William James called a "real, live option." That is to say, the alternatives to decision must be incompatible — we cannot do both, not, in any event, at the same time; and we must be forced to select one of them. In such a situation, a premium is put upon reflective activity. The person trying to get home or out of the woods before dark finds that situation in the forking of the road.

To be sure, he still would not *have* to think. He might simply

keep to the right (being an American), or he might toss a coin. But the more real and the more alive the option, the less likely he would be to follow habit or impulse. He would undoubtedly review his knowledge of woodlore, however scant it might be, try to anticipate the outcome of taking this forking or the other, and calculate his chances of reaching his goal, using whatever information he could gather. However inarticulate, this would be thinking. It is unnecessary to add that the situation, to be a genuine problem, must indicate at least the possibility of solution. Were the forked road in the middle of the Brazilian jungle and the lost wanderer without even the rudiments expected of an earnest Boy Scout, there would be little use in thinking. The problem must be tied up, prospectively and retrospectively, with experience.

Characteristics of Reflective Thinking

The *why* of thinking seems, therefore, to be connected with problem-solving. Problems can range from that of a broken shoelace to the choice of a profession or to a decision about martyrdom. Anything that breaks in upon our routine experience and forces us to make a choice between alternatives can prod us to thought. But *what* is reflective thinking? What are its characteristics? In what ways does it differ from unreflective thinking?

It Is Operative

Its first trait has already been noted — reflective thinking has a directive and a compulsive: the solving of a problem. In other words, it gets things done; it is operative. In this it is to be distinguished from one major aspect of unreflective thinking, that of fantasy. Day-dreaming and reverie do manage, of course, to kill time — in that, perhaps they are operative. But really they have no work to do. Fancy is for its own sake: it is "autistic." It is not going anywhere; as such, it solves no problems. To repeat an earlier point, there is nothing disgraceful about this. Fantasy is necessary

for a complete life. It is simply different from thinking as we are now examining it. Furthermore, day-dreams and reverie, the free play of the imagination, can easily lead to suggestions that do remove difficulties. Yet that is incidental. If it does become deliberate, then, almost by definition, unreflective thought turns into reflective thought.

It Is Critical

The characteristic of being operative is not unique or confined to reflective thinking. Habit can remove difficulties, too; problems can be handled by customary unreflection. Unlike fantasy, custom — that other large area of unreflective thinking — is indeed operative, sometimes too much so. We tend to draw conclusions without thinking about them. Therefore, a second characteristic must be added to separate reflective from unreflective thinking, that of being *critical.* By critical is meant roughly the quality of not taking things for granted, of refusing to act automatically every time there is a problem situation; to be critical means to question authority and habit, to examine experience before using it.

Here again there is the possibility of misinterpretation, since this characteristic of being critical might be taken to mean that habitual responses to stimuli are wrong — which would be quite absurd. The overwhelming majority of human actions, mental as well as physical, are unquestionably habit actions. Habit is the great assembly-line of human machinery; without it, every single move would have to be the laborious product of individual workmanship, and getting dressed in the morning would take months instead of minutes. Indeed, all learning, verbal or motor, is the forming of habits. The philosopher Whitehead could go so far as to say that "Civilization [itself] advances by extending the number of important operations which we can perform without thinking."

Also, as was noted in an earlier connection, to question authority does not mean that we throw it overboard. The preponderance of

human knowledge rests upon authority; without it, every man would have to learn about the world, getting no help from the accumulated wisdom of the race. Custom, like fantasy, must be considered unreflective — but it plays a dominating part in all human activity. To criticize it does not mean to abandon it; but to be touched by criticism does mean that any routine action tends to become reflective.

A few more words need to be said about "critical." Although it is completely hackneyed to repeat that "criticism must be constructive as well as destructive," there is a point here that should not be lost sight of. When something is criticized, it does not follow — as the word popularly seems to imply — that we overthrow it. Criticism may result in the strengthening rather than in the weakening of its object. Religion and democracy, to mention no others, are concepts that have been approached critically for thousands of years. In fact, if an idea is too weak to stand critical investigation, it perhaps does not deserve to stand at all. To refer to illustrations used before, unreflective habitual thinking about, say, politics or morals can become reflective only if it is "criticized." This does not by any means imply that we thereby cease to be Republicans or Marxists or Presbyterians or admirers of "Whistler's Mother." It means that, irrespective of the outcome, the conclusions we reach and affirm are not simply the conditioned responses — verbal, taste, or emotional responses — which are ours only because of constant exposure. Thinking in these fields, as elsewhere, demands, as at least one of its qualities, the refusal to accept anything blindly.

When it is argued, therefore, that reflective thinking is critical of fantasy and custom as ways of problem-solving, what is intended is an attitude, not of scolding, but of seeing alternatives, of considering pros and cons: it is an attitude that does not take things for granted, that refuses to act automatically or impulsively when there is the possibility of doing something else.

It Introduces a Delay

These two characteristics of reflective thinking lead to a third. For if thinking implies problem-solving — that is, action — and if, at the same time, the action must follow some exercise of critical appraisal, there is introduced a period of *delayed response.* The word "reflection" itself carries the connotation of suspense of judgment, of introduction of a time interval before a reaction is effected. The quantitative element of time is not particularly significant, since the interval between stimulus and response is so elastic — depending on the kind of problem presented — that the delay may vary from only a fraction of a second to one of many years.

It is the qualitative or functional aspect of suspense that is characteristic of reflective thinking. The first thing that pops into the head is not immediately put into operation. Several alternative reactions are examined and a decision is then made. Of course, the reflective attitude can easily become a caricature. Everyone knows of that absurdly philosophic donkey placed equidistantly between two equally succulent bales of hay. He reflected long upon which of the two bales he should turn to and, as you might guess, ended by starving to death. Very often (and, usually, very unfairly) the liberal in politics and economics has been thought to have something of that donkey in him.

Delayed reaction, however caricaturish its extreme may become, is nevertheless the most characteristically human of actions. To understand why thinking is reflective is to understand man's overwhelming advantages over all other animals in problem-solving. The technique of animal trial-and-error learning or problem-solving is familiar enough not to require exposition. A hungry cat or rat in a problem-box — that is, a small cage that opens when a trigger is released by the animal, and with observable food on the outside — constitutes the most elementary setting for the trial-and-error technique. The point to remember is that, with certain notable exceptions, the problem-solving of the lower animal is on an overt

level. The animal proceeds to put into action almost immediately any one of a number of possible motor responses to his problem stimulus. Most of these responses are purely random ones and some are fantastically irrelevant: the cat or rat may do almost anything, however remote, to get out of the box. In any event, there is little inhibition of physical acts, the problem being solved when one of the many overt responses happens to be the successful one. This response gradually becomes a conditioned one — the animal has solved his problem.

To mention this is not to underestimate or disparage lower animals, nor to elevate man! And it is certainly not to argue that human thinking is on a totally different level from animal instinct. The concept of biological continuity is one that must be accepted in any discussion of reflective thinking. Moreover, the notable exceptions referred to in the preceding paragraph are very difficult to explain in terms of mere physical trial-and-error procedure. They deal principally with problem-solving by anthropoid apes — experiments performed by men like Köhler (with chimpanzees) and Yerkes. Their work should also be too familiar by now to need reviewing except to mention that in handling rather complicated problems — requiring, for example, the joining of segmented sticks or the piling-up of boxes by the apes to reach food placed far out of their normal reach — there seems to be exhibited something quite different from the gradual elimination of unsuccessful trials that typifies routine trial-and-error learning. The apes appear to take their time after a certain amount of haphazard fumbling or fooling with the objects: they seem even to reflect. Finally, they "see the point" of the problem. In terms of the ordinary learning curve which rises steadily through a series of graduated steps, here there is a sudden jump instead of a slow progress to the plateau of success. Psychologists have called this "insight learning."

The Factor of Language

Should insight learning be called thinking? Do lower animals

think? This is perhaps a question in semantics. The terminology suggested here may help to avoid too dogmatic an answer to questions like these, yet it is only fair to state that human reflective thinking, such as is being described here, seems unquestionably unique because man's language mechanisms are unique.

Certain animals undoubtedly manipulate images and can be said to solve problems through a playful employment of imagery that could easily be classed as a form of unreflective thinking. But man manipulates words as well as images, and the difference is enormous. For words are abstract symbols: they are not simply signs, as are images or the expressive and emotional language of other animals. Words make it possible to form concepts, abstractions — digests of all our past experience, experience of both the individual and the race. Without the abstract symbolism of verbal language every man would have to start at the same place his ancestors started. This will not turn into a rhapsody in praise of words — although that really would not be out of place, for the power to work with abstract symbols, the transforming of language from a matter of denotation to one of connotation, may indeed be said to constitute the uniqueness of the human thought-dimension. In any case, the argument here is that man's control of linguistic symbols — itself dependent upon very intricate arrangements of the cortex and of the mouth and throat speech mechanisms — and his development of a syntax of language give human thought a character that must be considered in a class by itself.

This still does not imply any biological discontinuity. Man may solve problems by maneuvering with symbols of various kinds: that does not exempt him, for example, from trial-and-error routine. That he himself goes through overt physical fumbling is of course clear, but, in addition, it is trial by word instead of trial by motor action that seems the typically human pattern of problem-solving. Put your favorite fiction detective in a problem-room. Instead of vainly banging at locked doors or hurling himself at barred win-

dows, he sits down calmly and perhaps lights his pipe; or, should you have picked Philo Vance, he might toy with a Ming vase or study some intricate jade work or even sample some rare Napoleon brandy. If possible, Nero Wolfe would catalogue his orchids. Does that mean he is not trying to get out of his prison, that he is doing nothing? Not at all. He has tried the door and window — without stirring from his vase. He has tried them through his past associations stored up in the form of images and words. (To be sure, this vicarious trial-and-error procedure may be occasionally oversubtle. They tell a story, undoubtedly apocryphal, about Houdini to the effect that one of his few failures to pick his way out of a cell resulted from his overlooking the fact that someone forgot to lock the door.)

The advantages of verbal over motor trials are impressive. It is not simply that there is a saving of energy and — despite the initial delay — of time; the true saving is in the elimination of unnecessary physical acts that might endanger the very life of the individual. Random motor movements that lower animals must go through when presented with a genuine problem, that is, one not encompassed by their pattern of instinctive or conditioned response — have negative survival value. Man can make his mistakes "in his head"; he does not have to gamble his life on every hypothetical solution that may strike him. He can inhibit action — by using word symbols. He can criticize in advance his proposals before operating with them. This is the very essence of reflective thinking.

Reflection, therefore, implies some element of delay, of suspended judgment; the delay is a function of man's power of language, since he is handling surrogate symbols instead of motor acts. Nevertheless, the power of language is not to be regarded as instituting a complete break with "lower" problem-solving, for (*a*) although not overt, language routine is still a form of muscular and neural action, however implicit it may be; and (*b*) it still works on a trial-and-error basis, the basis of all experimentalism.

Semantics

Upon several occasions we have referred to semantics. Perhaps there should be a brief note about it at this point, since the factor of language in reflective thinking suggests, almost compels, recognition of a subject that has become literally a book-of-the-month one. Treatments ranging from that of the primer to the thoroughly scientific and even the mystical have found great favor.[1] There is nothing essentially novel in semantics: it refers to the meaning of words, or, better still, the "meaning of meaning." In the field of philosophy, the problem of language and its referents (the things which words stand for) has been perennial; from the pre-Socratic Greek thinkers to the modern pragmatists, logical positivists, and symbolic logicians, no generation of philosophic thought has escaped the realization that "the word is *not* the thing." (The failure of some of the modern semanticists to understand or at least to give credit to such a long-time philosophic sensitivity is undoubtedly one of the reasons for the occasional display of academic impatience with them.)

But this absence of novelty removes nothing of the basic significance of semantics. That significance is to refine our awareness of the subtle operations of language upon all human activities, and to put us on guard against the even more subtle dangers of believing symbols and counters to be the things they represent. It is good to be continually reminded that language is the map and not the country itself. It is vastly important to recognize that emotional or affective speech should not be mistaken for factual or reportorial speech. When someone tells you to go to the devil, you need not

[1] Samples of the various approaches can be found in the following books: S. I. Hayakawa, *Language in Action* (New York, Harcourt Brace, 1941); Stuart Chase, *The Tyranny of Words* (New York, Harcourt Brace, 1938); C. K. Ogden and I. A. Richards, *The Meaning of Meaning* (New York, Harcourt Brace, 1936); and Alfred Korzybski, *Science and Sanity* (New York, Science Press, 1941).

expect to be provided with a map! Especially is it valuable for us to be warned against the hypnotic effects of abstract words, words which often do not point to anything at all. Perhaps we have already learned (the hard way) that "democracy," "communism," "fascism," "liberalism," "isolationism," "interventionism," "planning," "bureaucracy," and all the rest of them must be given more tangible reference than simply the black marks on white paper and the sound waves that so often exhaust their present meaning. If we have not learned that, then we shall continue to react to these and other "isms" as automatically as Pavlov's dogs. (The reaction can be pathological as well as automatic. In fact, one of the most interesting applications of semantics has been in psychiatry, since fixed responses to words instead of to events can cause serious mental maladjustment.) All these contributions of semantics are healthy ones, and to the degree that it has encouraged the challenging of empty or misleading abstractions the interest in the meaning of meaning has performed yeoman service. To try to give abstract symbols concrete and specific reference is always a welcome effort. Particularly for philosophy, which has been so easily seduced by concepts, has there been provided one more fillip to encourage its continual self-criticism.

This is only half the story, however. For there is a faddish quality to some aspects of contemporary semantics which is more than merely annoying. There seems to be downright danger in the notion that good habits of language are alone the keys to universal problem-solving. That notion is being put forward seriously by a number of semanticists. Instead of a magic of words there seems to be substituted a magic of referents. It is indubitable that confusions in language have hindered intelligent discussion of fundamental issues in philosophy and in the general field of social science; it is equally certain that a thoroughgoing analysis of language will help clear up such confusion. But that is only a preliminary step. The fundamental problems of (at least) social philosophy are

something quite beyond semantics. Just where they are to be located will depend largely on one's philosophy of history and economic bias, but they certainly involve non-linguistic elements. To think that science of language alone is a weapon that will put such problems at our mercy is as much necromancy as the primitive's worship of words.

There seems almost to be an escapist quality to the votaries of semantics when they venture to apply it to the social field, a tendency to suggest that, since terms like "democracy," "socialism," "pacifism," and so on have no tangible referents, there is little possibility of intelligent intercourse in the whole area of economics and politics. An attitude of rather cynical sophistication seems noticeable when some modern semantics experts refer to social affairs, an air of shrewdness akin to what results after we learn "there isn't any Santa Claus." All this is not to deny that social thinkers are often ignorant of the dangers and deceits of language, or that they cannot learn from the linguistic critics. But it is to assert that thinking must go on from that point of recognition. It cannot stop with semantics or with cynical superiority. The specific problems of economic planning and political reconstruction remain to be tackled.[2] These problems are not linguistic in essence, however much their solution may be aided by straight habits of language.

There is one other difficulty that appears to be blinked by the usual semanticist. He seems to assume that the tangible referents, the facts, which language ought to point to are self-evident, that they are standing around with labels on them. The problem of the relation between factual data and hypotheses will be mentioned

[2] This point is very well illustrated in the work of Thurman Arnold. His *Folklore of Capitalism* and *Symbols of Government* are masterpieces of exposition of the rôle of semantics in economic and political thinking. Yet his subsequent work as a federal administrator in Washington was in a completely different dimension; and whether or not it was affected by his linguistic studies is a nice question.

shortly, but it may be pointed out here that "facts" are certainly not "there" waiting to be found. No bell rings when we come upon a fact. No red bulb glows when a word points to the correct thing. Instead, what seems to be the case is that we make certain predictions on the basis of hypotheses or theories or natural laws, and, to put it crudely, facts or things are what verify or contradict such predictions. Facts are tied up with what we are looking for. This kind of relationship is a very intricate one; nevertheless there is a kind of naïveté that some semanticists reveal when they suppose that the *word* "fact" or "thing" itself has an inescapable and unequivocal referent.

The same naïveté seems to be evident when a special place has to be provided for literature and poetry, where so often the word *is* indeed the thing; or when the humanities and the social sciences are deprecated and the natural sciences extolled in terms of their differing linguistic habits. Such elevation of the factual disciplines over those dealing with values is part of the same mischief that has produced a deep and vicious rent in the entire fabric of human knowledge.

ANALYSIS OF REFLECTIVE THINKING

Our discussion of reflective thinking thus far has tried briefly to answer two questions: (1) why such an activity has come into existence; and (2) what are some of its larger characteristics and implications. We can now try to analyze a complete act of reflective thinking. This analysis will be in terms of reducing an act of thinking to a number of steps — five steps to be exact. But it must be noted at the outset that such a reduction should not be taken too seriously (a point made by John Dewey himself in his little classic, *How We Think,* which gave us this five-step outline). To divide a single act of thinking into a number of separate parts is not to describe it psychologically, for thinking is not atomistic; nor does it have to operate in five neatly different stages.

The purpose of this division is one of logical anatomy, an attempt to locate different elements of the thinking process and to discuss them as hypothetical units. It does not purport to be a description of the actual physiological functioning of thought, since that is a problem for psychology. Neither is it an insistence that there are five thought compartments, each carefully insulated from the other. One step of thinking can and does glide into the next without any conscious separation whatsoever. In a simple problem, all five can be integrated in a single operation. Therefore, the following analysis is more of a commentary than a prescription. Thinking can be fruitfully divided into stages, and one stage does follow in logical order from another, however inseparable they may seem. Moreover, each step presents a number of characteristic questions and contributions that can best be handled individually. That is why a five-step analysis is introduced, and why, at the same time, a warning is included not to interpret it too rigidly or too literally. It is a map of thinking, rather than a photograph.

Take, for example, a simple act of reflective thinking such as that described by Dewey: [3]

> Projecting nearly horizontally from the upper deck of the ferryboat on which I daily cross the river is a long white pole, bearing a gilded ball at its tip. It suggested a flagpole when I first saw it; its color, shape, and gilded ball agreed with this idea, and these reasons seemed to justify me in this belief. But soon difficulties presented themselves. The pole was nearly horizontal, an unusual position for a flagpole; in the next place, there was no pulley, ring, or cord by which to attach a flag; finally, there were elsewhere two vertical staffs from which flags were occasionally flown. It seemed probable that the pole was not there for flag-flying.
>
> I then tried to image all possible purposes of such a pole, and to consider for which of these it was best suited: (*a*) Pos-

[3] Reproduced from *How We Think,* by John Dewey, by permission of D. C. Heath and Company (New York, D. C. Heath, 1933), new ed., pp. 92-93.

sibly it was an ornament. But as all the ferryboats and even the tugboats carried poles, this hypothesis was rejected. (*b*) Possibly it was the terminal of a wireless telegraph. But the same considerations made this improbable. Besides, the more natural place for such a terminal would be the highest part of the boat, on top of the pilot house. (*c*) Its purpose might be to point out the direction in which the boat is moving.

In support of this conclusion, I discovered that the pole was lower than the pilot house, so that the steersman could easily see it. Moreover, the tip was enough higher than the base, so that, from the pilot's position, it must appear to project far out in front of the boat. Moreover, the pilot being near the front of the boat, he would need some such guide as to its direction. Tugboats would also need poles for such a purpose. This hypothesis was so much more probable than the others that I accepted it. I formed the conclusion that the pole was set up for the purpose of showing the pilot the direction in which the boat pointed, to enable him to steer correctly.

This little bit of problem-solving is, of course, a unit; it is not dissected into parts. But in retrospect different stages clearly reveal themselves. (*a*) There is, first of all, a difficulty, however inconsequential, which breaks in on the ordinary routine of our experience. (*b*) The difficulty has to be diagnosed, so that the problem becomes clear — so that, in fact, it really becomes a problem instead of merely a vague discomfort. (*c*) Possible suggestions thrust themselves forward, and (*d*) those suggestions are worked through "in our heads" to see what would follow if any one of them were adopted. Then, one is chosen. (*e*) Our "solution" can now be corroborated by some overt act or experiment. In the preceding illustration the solution seemed so clear that nothing apparently was done about it. But the person could have asked one of the crew to see if his problem were indeed correctly solved.

Such a five-step analysis is not proposed as a pedantic exercise. When an act of reflection is broken down this way, specific suggestions about different aspects of thinking may present themselves.

Ways of improving this or that phase may be indicated. In general, we become more self-conscious about our thinking.

THE PROBLEM

The first step of any thoughtful act has already been presented — it is the problem or stimulus that sets reflection into movement, and without which it would be difficult to see why we should think at all. Yet this first step is not always obvious, as it was in the case of the pole on the ferryboat. It is not obvious because problems do not just lie around under our feet all the time. Nor do problems necessarily speak for themselves: they are often as incorrigibly dumb as are facts. They must be sought out and cultivated.

This seeking-out and cultivating is precisely the function, among other things, of the scientist. He is sensitive to potential problems as most of us are not. We go along taking things for granted, seeing few difficulties, keeping our curiosity under wraps. The radio is an instrument on which to twirl a dial and get —. It is not a source of questions, as it is to the physicist, questions whose answers could explain matter, energy, the entire cosmos. Like the poet, the true scientist sees as we cannot. Our eyes are literally closed to the prodigious mysteries of our apparently commonplace everyday lives. Within our own skulls and glands, not to mention the atoms themselves that make up our bodies, is enough problem material to occupy man's intelligence for whole millenniums; yet "we can take them or leave them alone."

There is nothing unusual in this. Narrowly pragmatic considerations dominate our daily routine, and we are not looking for trouble. The scientist is! If he cannot find enough trouble in his ordinary experience, he goes into his laboratory and stirs some up. Indeed, that is what laboratories are for: to manufacture problems, to stimulate curiosity. Nature is too inarticulate, but in the laboratory she is tortured — and talks. The deliberate keeping alive of a significant curiosity is, then, one of the complications to be added

to this first step of a complete act of reflective thinking. For if thinking depends upon problems, then the more significant problems we discover (or invent) the more we shall think, and — since thinking is not necessarily an end in itself — the more significant solutions we shall come upon. Curiosity is the power to see problems, and it must be kept alive.

The word "significant" is important here. That is why science may continue to be considered the very model of reflective thinking because, to put it rather dogmatically, the problems that the scientist works with *are* the significant problems. That is to say, to think significantly we must know what to look for. Technically, a broken shoelace may inaugurate what can be correctly called a brief moment of reflective thinking, since any problem can start us off. But significant thinking depends in great measure upon what problems are deliberately selected to start us off. The chemist does not wander aimlessly into his stockroom and begin pulling out bottles at random, to mix their contents and see what happens. He knows what he is after at the outset. Actually, it is his initial inquiry that makes the situation problematic or indeterminate. He does not just find the difficulty; in many instances he creates it. The importance of his initial inquiry depends in turn upon background, upon previous knowledge of content and technique; it depends upon the whole history and science of chemistry. An illustration from Pierre Duhem, the French physicist, may show this relation of problems to background — and to scientific instruments:

> Enter a laboratory; approach the table crowded with an assortment of apparatus, an electric cell, copper wire covered with silk, small cups of mercury, spools of wire, an iron bar carrying a mirror; an experimenter is plugging into small openings the metal end of a pin whose head is ebony; the iron oscillates, and by means of a mirror which is attached to it, throws upon a celluloid scale a luminous band; the forward and backward motion of the luminous spot enables the physicist to observe minutely the oscillations of the iron bar. But ask him what he is doing. Will

> he answer, "I am studying the oscillations of an iron bar which carries a mirror"? No, he will answer that he is measuring the electric resistance of the spools. If you are astonished, if you ask him what his words mean, what relation they have with the phenomena he has been observing and which you have noted at the same time as he, he will answer that your question requires a long explanation, and that you should take a course in electricity.[4]

Therefore, to say that a complete act of reflective thinking starts with step number one, a problem, is not to say very much. We have to say also that problems are not automatic: they depend for their very life upon curiosity, and for their significance upon a *selective* curiosity. This element of selectivity introduces a further complication into the first step of thinking, for it indicates that there is much activity before there is any first step at all. There must be knowledge, background, a sense of perspective and of meaningfulness. Problems spring full-armed only from a head that is already well stocked. Further, to be selective signifies that there is some criterion upon which to base a choice, that there is a standard of judgment. This is the apparatus of evaluation. Thus, the very act of selecting data and of determining upon the significance of problems introduces values into any thinking that is to be labeled scientific. For so much at least, the scientist can be neither neutral nor objective.

DIAGNOSIS

This importance of background and of the feeling for significance is never absent from any of the stages of reflective thinking. But it seems more dominant in the opening steps. To be sensitive to the presence of a difficulty demands itself experience and competence: to know just what the difficulty is requires very much

[4] Pierre Duhem, *La théorie physique,* p. 218. Quoted in M. R. Cohen and Ernest Nagel, *An Introduction to Logic and Scientific Method* (New York, Harcourt Brace, 1934).

more. This separation of the presence and the identification of a problem into two steps is necessarily artificial. As was mentioned a few pages before, steps one and two are not watertight compartments; they are not acts separated by curtains — with appropriate intermezzos. In the overwhelming majority of cases it would be almost impossible to distinguish between the recognition of a problem and its diagnosis. In fact, to put it paradoxically, diagnosis might be necessary before there was awareness of the trouble itself. This was clearly the case on the ferryboat. That the pole was *not* a flagpole, as was first imagined, made the problem a problem. So, a problem may be but a vague sensitivity that something is wrong — "I don't feel so good, Doc." It can be a stimulus to inquiry, perhaps only a fumbling and incoherent one. For it to become relevant the (potential) problem must be clarified, refined, and given focus and sharpness. Thus, although it would not be realistic to insist upon severing this second step in thinking from the first, it still may be of service to handle some of the problems of diagnosis separately.

"Diagnosis" has become characteristically a medical term. That is because of the spectacular rôle the second step has come to play in medicine. The unanalyzed or crudely analyzed feeling of being unwell is not of too much help to the physician: it is only a start. He has to locate the trouble and differentiate it. This is commonplace enough, yet the act of locating and differentiating even so homely a thing as a case of measles contains all the elements of preliminary scientific inquiry. For one thing, a competent background is demanded. The inarticulate recognition of ill health requires no more than normal sensitivity, but to identify the most common of garden-variety ailments — not to mention the rare specimens — presupposes acquaintance, thorough background, and a sense of selectivity that come only from a specialized experience. It is not too much to say that the entire history of medicine revolves around the definition of problems. The difference between the

chants of a medicine-man and the cool sanity of a bacteriological laboratory lies not so much in the remedies offered by the two as in their interpretations of the nature and cause of disease. Diagnosis based upon the etiology of devils will have a train of implications not found in one related to germs. The great new plateaus of medical knowledge rest decisively upon what science has decided to look for and pay attention to, upon the way its problems are defined.

Classification

These observations may seem tediously familiar. Yet they point to a characteristic of reflective thinking that is crucial — the importance of focused knowledge. Diagnosis depends critically upon the ability to bring experience to bear upon a problem. Random, unorganized knowledge is of little help; it has to be made available. The Greeks noticed that it was not the fastest runner who won in the Olympic Games, but the fastest of the runners who were entered. Knowledge that is not entered can win nothing. But how is experience to be made available? Clearly, it must be co-ordinated, systematized, classified. Knowledge that is just lying around is as useless as a large library of uncatalogued books. Returning to medicine once more, the identification of an illness that is not obvious at the onset, say, typhoid fever, requires that the case records of the disease must be immediately available — in the physician's head or in the appropriate case-books. With the classified and organized information at hand, a diagnosis can be made that will derive from the whole history of typhoid fever; without such knowledge, available through the flip of a finger at an index, typhoid fever becomes some unheard-of, mysterious plague. Classification preserves and orients the data of medicine (and of any science) just as language does the general experience of man.

Classification carries such a heavy responsibility that some definitions of science confine themselves to it. Even such a subtle thinker

as Karl Pearson found "classification of facts" to be a suitable description of the heart of the scientific enterprise. That definition is not entirely acceptable, but it does indicate that this second step in the analysis of a complete act of reflective thinking, particularly the classification of data upon which all diagnosis depends, is indispensable in the process by which human problems are solved.

The technique of classification will provide a continuing illustration that all the stages of reflection demand some preliminary orientation, for data are not classified just any old way. Principles of classification stem from the use to which the classified material is to be put, and, in turn, that use is a function of a whole set of values and purposes. For example, the complicated classificatory systems of zoology are, in the main, an accessory to the theory of organic evolution and so provide illustration and proof for a philosophy of biology. Animals are not classified by size or color or any other gross characteristic that might superficially be hit upon as a convenient taxonomic device; instead, the factors selected are chosen for their significance — significance being understood largely in terms of the light it casts upon evolutionary relatedness. Those factors may be fairly obvious ones, such as vertebrate structure, reproductive processes, or feeding habits; they may be much more subtle, such as number of bones in the foot, relation of hoof to cud-chewing, or (in man) shape of head and precise texture of individual hairs. In either case, the classification has a purpose not found in the simple need for keeping things separate and readily identifiable. The scientific classifier knows what he is after, knows it in advance of the act of classifying, and directs his procedure accordingly. This demands more than knowledge: it demands the sense of worth that springs from knowledge, the capacity to make critical judgments, in a word, the ability to evaluate.

HYPOTHESIS

We have not yet got beyond the problem, and we must go be-

yond it for a solution: problems may suggest but they cannot furnish solutions. Nevertheless, a question well-stated is a question half-answered, and diagnosis must precede hypothesis. The two are not severed from each other; as has been argued right along, these separate steps are parts of a logical analysis that may reveal the richness of the thinking process, but is not supposed to be a picture of it. A diagnosed difficulty may contain within itself, if it is simple enough, the potential solution and even the verification.

For once the problem is clearly defined, possible solutions spring up. The emphasis here must be on the adjectives, the qualifiers, for the third step is dominated by characteristics like tentative, contingent, hypothetical, preliminary, experimental. Suggestions begin to present themselves, but they must be regarded, whatever their source, as only provisional explanations that require a great deal of further work before they achieve a respectable status. The source of hypotheses can be almost anything — hunches, shrewd guesses, intuition, or carefully worked-out programs of discovery. (It may be noted in passing that fruitful hunches seem to come only when there is relevant background. The economist ordinarily gets hunches in economics and not in physics.) But background alone is no guarantee of a reservoir of relevant suggestions. A creative imagination is demanded — and how one provides himself with that valuable faculty seems to be a well-kept psychological secret. Even with the same training and experience, some men do and some do not have the facility for seeing possible solutions.

The possession of such a creative imagination may indeed be the distinguishing mark of the true scientist as it is of the poet. It is a libel to consider the scientist (not the routine technician) as cold-blooded and unimaginative. The men who have made the history of science — the Darwins, Einsteins, Galileos — were possessors of an unbounded creativity, much of it downright fanciful. Darwin, for example, tells us in his autobiography that he was forever seeing explanations, but that he discarded a hundred for every one he pro-

ceeded to verify. Hypotheses (and theories) depend for their origin upon the power of seeing new relationships, of using the focused knowledge that has become available, of going beyond the problem at hand to an interpretation expanding the original stimulus and introducing elements that can be considered as genuinely novel. That power is not easy to analyze. Its possessors, as evidenced by the letters and autobiographies of many great scientists, have very often felt it to be intuitive in nature — which is simply to say that this creative power is not easy to analyze.

Hypothesis and Predictability

But hypotheses do not depend for significance upon their source. They must be treated "democratically," whether they come from an alleged revelation or from painstaking routine research, and be judged solely in terms of what can be done with them. This will apply as well to the axioms and postulates of mathematics as to the dogmas of religion — *hypotheses must lead to prediction and be capable of verification.* It is this criterion which will help discriminate good from bad hypotheses, for any proposed suggestion, however wild, may function technically as an hypothesis. Formerly it was argued that acceptable hypotheses must be comprehensible; that is, must fit in with common sense or the recognized laws of nature. This would be a very difficult criterion to justify in connection with the concepts of modern mathematics and modern physics. The discoveries here, many of them, are quite incomprehensible to the layman (and even to the "common sense" of the physicist himself) and demand serious modification of accepted natural laws. Both common sense and the so-called laws of nature are in a state of change; there is always a cultural lag between them and the most recent developments of natural science. In time common sense and the traditional laws will catch up with those developments and make the curved space of relativity as sensible as a round earth now seems to be, but until then they cannot be un-

qualifiedly relied upon as canons for judging scientific hypotheses.

The standard of predictability and verifiability is not particularly concerned with the intelligibility of proposed solutions: their workability is what counts, and workability in this connection means something quite specific. Any hypothesis that makes a claim upon us must be able to do at least two related things: (1) if the hypothesis is accepted, then certain deductions, certain inferences, can be made from it; and (2) it will be possible, and directions will be provided, to verify these inferences, to see if what is predicted actually happens. These two are really a double aspect of a single process and they will furnish the next steps in the present analysis. But they can be used here to sift significant from insignificant hypotheses.

Plausibility is not the deciding factor in determining a relevant hypothesis. Should someone insist that those lights in the heavens are not really stars but simply holes in an immense black velvet curtain through which shines the everlasting fire, the patent ridiculousness of the idea is not at all important. Indeed it would be easy to find hypotheses in the new physics which, to some, were just as ridiculous. What makes this particular suggestion irrelevant, just as the one about the moon and green cheese, is that no predictions can be made from it; it is not verifi*able* (the difference between verifi*able* and verifi*ed* is central in this whole procedure). Were we told how to identify the curtain, what steps to take to see if it existed, what its condition was and how it functioned, then — however fantastic — certain operations would be indicated and the value of the hypothesis would rest upon them. The classic historical example of the incompetency of an alleged hypothesis is that of the Italian philosopher who sought to refute Galileo's observations about the surface of the moon by maintaining that the moon was not really pockmarked — for no heavenly body, being perfect, could suffer with an acned complexion — but that there was an invisible crystalline substance filling the supposed craters and making

the moon a perfect sphere. Being invisible, of course it could not be seen; and being a long way off, the moon's surface could not be felt. So, there was nothing to lose — except any possible meaning that the idea might have. Galileo's answer is just as classic: to be sure, there is such a substance, only it is piled twice as high on the mountains of the moon as it is on its surface!

There is a minor incident in Darwin's scientific travels that perfectly illustrates the technique of fruitful hypothesis, the technique, that is, of prediction that leads to the possibility of ultimate verification. Among his many other interests Darwin gave much attention to the fertilization of orchids by insects. On one of his trips (to Madagascar, it seems) he discovered an apparent correlation between the length of the pistil and style of a certain species of orchid and the tongue-length of a tropical moth. The hypothesis that the moth in the act of inserting its proboscis brought pollen to the stigma of the flower seemed an obvious one: it was plausible and consistent with the whole theory of cross-fertilization. Then just before Darwin left the island a variety of orchid was found with an unusually long pistil-style arrangement, something like fourteen inches, longer than any moth's tongue previously discovered. Darwin remarked that if his hypothesis were correct, there should be such an insect. This is not a suspense story; therefore, it will quickly be guessed that shortly after his departure, there was found in the interior of Madagascar, and in the same region inhabited by the orchid in question, a hitherto unsuspected variety of tropical moth with a fourteen-inch proboscis. The very insignificance of the story makes it a little gem, since it pictures in such an elemental (and possibly unimportant) fashion the outline of what a good hypothesis is like.

Hypothesis and Probability

One comment should be made on this procedure of prediction and verification or there may be a serious misunderstanding. When

predictions are made upon the basis of a particular hypothesis and the predicted data do appear (as in the case just cited), that does not constitute proof of the hypothesis, not, at least, proof in any mathematical or demonstrable sense. Darwin's moth-and-orchid relation might still have been a coincidence. (Indeed, in formal logic it is a fallacy for the truth of the consequent — the "then" clause — to determine the truth of the antecedent — the "if" clause. For example, the statement, "if anything is made of asbestos, then it is non-inflammable," cannot validly lead to the conclusion that "this thing is non-inflammable and so must be asbestos." There are other non-inflammable substances besides asbestos.) This technique of prediction and verification means one of *increasing the probability of the hypothesis:* the more predictions verified, the more probable the original suggestion.

This is nothing about which to be apologetic. As will be argued shortly, the very meaning of scientific method seems to lie in this area of increase of probability. A more precise vocabulary indicates the point, for "hypothesis," in technical usage, refers to an explanation that is difficult or impossible of final verification — such as the tidal-and-planetesimal hypothesis of the origin of the solar system or the more recent "exploding sun" hypothesis; while "theory" signifies an explanation that rests upon a formidable amount of verified and verifiable data — say, the theory of evolution or of relativity or of quantum mechanics; whereas "natural law" — gravitation, Boyle's law, and the like — implies an explanation that must be regarded as for the moment established. But it must be carefully noted that these three are intimately related: they differ only in degree. Not even a natural law can be considered as the ultimate explanation that must be followed by "Amen." It is still subject to further correction and restatement, which is precisely what has happened to laws in every field of modern knowledge, from physics to history. All our knowledge, in other words, is hypothetical in that it rests upon a continual process of formulating

explanations, making predictions on the basis of them, seeing what happens, and then revising and amending the original explanations in the light of that practice.

The Law of Parsimony

All this, and more, seems to be contained in the principal criterion of a good hypothesis, that verifiable predictions can be made on the strength of it. There is at least one other test, and that is simplicity. Other things being equal, a sound hypothesis is generally a simple one, but "simple" is not a synonym for "obvious." The simplicity that characterizes acceptable scientific explanation is systematic simplicity, what the mathematicians like to call "elegance" — that is, discovery that depends upon the fewest possible factors. Simple hypotheses are not those that are necessarily clear to the layman, for that would, again, remove much of the new physics. Moreover, popularly simple hypotheses, such as many now advanced in politics and economics, may be downright dangerous. As used here, simple hypotheses are those that "do not multiply essences," that do not require singular and unique explanations to account for apparent discrepancies, that make the least number of demands upon special (*ad hoc*) agencies. They are "stingy." Hence the law of parsimony.

The neatest illustration of this criterion is one that is universally familiar, yet it can hardly be omitted even if every logic textbook carries it. We all accept the Copernican theory that the earth moves around the sun. Why? That would be a good question to ask anyone. What proof does he have that makes him contradict the simple rule of seeing-is-believing and contravene the common sense that makes it impossible to stand or move normally on a fantastically whirling ball? The actual proofs of present-day astronomy are limited, rather technical, and were completely absent — even impossible to have been intelligently imagined — until centuries after the days of Copernicus. Why, then, was his hypothesis

accepted, and, despite the shattering revolution it ushered in and the hysterical opposition it provoked, accepted in a comparatively short time? Because he offered a mathematically simpler account of heavenly movement.

Ptolemy's older geocentric theory was in no way absurd. He was one of the world's great astronomers and his hypothesis (and not simply for religious reasons) satisfied man's intelligence for some twelve hundred years. As is well known, Ptolemy accounted for the alleged motions of the sun, stars, and planets around a supposedly fixed earth by his doctrine of epicycles. These were extra motions that the heavenly bodies enjoyed as they circled about the earth, motions that accounted for the empirically observed positions that the stars and planets actually occupied from time to time. Ptolemy's intricate mathematical calculations, in terms of some eighty-nine epicycles, explained why and how the heavens changed as they did; the hypothesis was a good one, for it "saved the appearances" and made verifiable predictions. And it must be clearly understood that there was no way of disproving him, no way until within the last century or two when a whole new series of explanations based on our knowledge of the distances of stars made the geocentric hypothesis completely untenable.

Copernicus reduced the Ptolemaic epicycles to thirty-nine — and that is why his idea triumphed! He still required special motions because he believed that the earth traveled around the sun in a perfect circle: Kepler's explanation of elliptical orbits for the earth and other planets removed all epicycles. But the mathematical parsimony that needed fewer "gods from the machine" to explain the heavens captured the imagination of intelligent men. It was not as simple as this may sound. Copernicus profited by his times. The fourteenth and fifteenth centuries presented an intellectual background in which mathematics was as renascent as the fine arts; among other things, that background included a revived interest in Plato (who was profoundly affected by mathematics, whereas

Aristotle, the god of the Middle Ages, was not) and the introduction into Western Europe of Arabian mathematical knowledge. Mathematical demonstration had by now become fashionable: with Galileo it was to dominate the intellectual world. Therefore, the amputation of an appreciable number of mathematically extraneous notions from a scientific explanation made it that much more plausible.

THE "IF-THEN" STEP

The mention of mathematical elegance can carry us into the fourth step, since it is one of deduction and implication. There is also a problem involved, because the introduction of anything characteristically mathematical in nature would suggest that the fourth step must be sharply distinguished from the preceding ones (and also from the fifth and final step), which are certainly not mathematical. But this would seem to contradict the very procedure of hypothesis-prediction-and-verification which indicates that the third and fourth stages (as well as the fifth) must be regarded as an almost indissoluble unit. A serious difficulty would be presented only if the present anatomizing of reflective thinking were taken too seriously, as anything more than a possibly helpful logical dissection.

Taken by itself, the third step of hypothesis deals only with the rise and the presence of possible explanations. True enough, to be considered as a good hypothesis, an explanation must possess the essential qualities of predictability and verifiability; and they, in turn, mean operating beyond the mere presence of a hypothesis to its elaboration. Nevertheless, the elaboration or working-through of explanatory suggestions can most appropriately be reserved for the fourth step — if one still continues to keep his fingers crossed about this whole matter of "steps." What, then, is meant by the working-through of hypotheses and why is the process separable from what has gone before?

The phrase "if-then" is a revealing and useful one. For one thing, it indicates a connection between the hypothetical and the mathematical. The "if" makes an assertion only of contingency, of dependence upon some antecedent condition; whereas the "then" is supposed to be the sign of what is called logical or mathematical necessity; that is, the inevitable consequence that — though the heavens fall — must follow. A simple illustration would be: if this is Thursday, then (at least in the English-speaking world) tomorrow must be Friday. The if does not assure us that it is indeed Thursday; nor does the proposition in any way demonstrate that there will be a tomorrow. But should both conditions be fulfilled, the inevitability of Friday is as conclusive as one of Euclid's demonstrations.

Induction-Deduction

This mention of contingency and necessity would introduce a host of technical problems in logic that are beyond the scope of this analysis. One of the more familiar and (apparently) less technical is that of the relation between induction and deduction. These two terms should be clear enough. In their popular and rather uncritical phrasing, induction stands for reasoning from the specific to the general, and deduction the reverse.

Even this too simplified formula reveals an intimate and functional connection that would soften, if not remove, the sharp wedge that has so often been driven between them, for "specific" and "general" themselves are not decisively separable, and to start with one means inevitably to return to it before the cycle of thought is complete. It has been frequently asserted, though, that induction and deduction are so unlike that they have in fact characterized whole ages of civilization, some (like ancient and medieval thought) being almost wholly deductive, and others (those following the scientific revolution and Francis Bacon) supposedly inductive. But no organized thinking can be purely inductive or

deductive. A demurrer may be presented on behalf of the completely deductive character of mathematics. This alleged exception may be granted, but only to avoid argument, and not without insisting that the criticism and invention of postulates constitutes the essence of mathematical creativeness and that they are certainly not deductive in any familiar sense of the word.

Induction and deduction are mutual. To start with a set of concrete data implies a process of generalization from them — and this would be inductive; but that generalization itself must be tested and applied — and that would be deduction. To start with an arbitrarily selected general statement (or axiom or postulate, as in mathematics) demands a train of implications — and that is deduction; but those implications will, in turn, throw more light, critical or corroborative, on the original assumption — and that is inductive. If one argues, from the few he has seen, that all swans are white and then finds a black one that somehow does not follow from his general law, the circle from data to law and back to data has been closed. If one starts with the Aristotelian "all men are mortal" and then comes upon an implication like George Bernard Shaw (or some other — at the time of writing — apparent Struldbrug), he may have to do some revising of his premise. Specific, concrete details lead invariably to some kind of generalization, for that is how man finds his way around in the world; but those general propositions point back again to details. There is no one-way street here.

This is not to say that induction and deduction are the same thing. They are indeed different, although complementary, and the beauty of this five-step outline of John Dewey is that it allows for that kind of distinction. Since all steps are necessary for a complete act of reflective thinking, induction and deduction are both seen to be essential. Yet the third step is clearly inductive: it begins with a specifically diagnosed difficulty and tries to handle it through the formulation of a more general hypothesis that will

cover it and similar problems as well. The fourth step is just as clearly deductive, for it originates with a hypothesis from which certain particular consequences are to flow. But these are the third and fourth stages of a single process, and both are vital. Thinking is at some time both inductive and deductive — but not at the same time.

How Problems of Induction-Deduction Could Be Extended

It was noted a few paragraphs above that going from general to specific, or the reverse, is too simple a description of deduction and induction. A better expression of these aspects of reflective thinking, particularly of induction, would be in terms of methodology. That is, induction can best be regarded as a name for the series of processes through which sense perceptions become organized into usable material. Man can perceive only particular events. Yet he lives in a world that he looks upon as one of general laws, laws that he never experiences in any literal fashion. He sees a stone or an apple fall, never the law of gravitation; he uses steam, but does not come upon Boyle's law as such. Nature is always particular; yet man's information is incorrigibly generalized. There is nothing illegitimate in this. Without such transformation of given into prepared experience, man would be unable to predict, to control, to live indeed as a man. But the audacity of determining that any given bit of sensory data is actually a sample or specimen that can be used successfully to represent an entire class has never failed to astonish philosophers. Scientists have been less astonished, perhaps because their job has been to derive the methods by which that sampling becomes legitimate. In any event, "to reason from the specific to the general" is a very inadequate description of induction, although anything like an adequate description would soon turn into the complete methodology by which discrete sense impressions are transmuted into the "laws" that organize human experience.

The processes of deduction also demand a less bald exposition than that of "reasoning from general principles to specific applications," but the problems here are not so much of method as they are of jurisdiction. Which is simply a way of recognizing that deductive inference has always been credited with something of a superior status by reason of its certainty, the way it coerces our thinking like a geometrical demonstration. If we start with an accepted premise, say, our system of natural numbers, or the proposition that all men are mortal, and make no mechanical mistakes in reasoning, then certain conclusions inevitably follow: in one case, two plus two must equal four; in the other, John Smith, being a man, must also be a mortal. This kind of argument, with its title to absolute exactness and unavoidable results, has always possessed a kind of philosophic fascination; it seems to be an "extra superfine" brand of human knowledge and in a class by itself. Indeed, the emphasis upon deduction has provided the foundation for a traditional philosophic attitude, that of rationalism with its aristocratic claims to precedence over "mere" inductive empiricism.

Elaborate arguments on this point have occupied a large share of the history of philosophy, but the limits of the present discussion do not reach as far as that. Nevertheless, in this brief elaboration of deduction a few considerations may be offered. One will refer back to the phrase, "if-then." The *if* should provide a good insurance against the absolutistic character that so often has been ascribed to deductive inference, a good insurance because it deals with the first principles upon which all deduction rests. These principles are by no means unquestionable, as the axioms of Euclid were once thought to be. They must be regarded always as postulates, as a form of hypothesis, the value of which depends upon fruitful consequences. The relation between the non-Euclidean geometries of the nineteenth century and the doctrine of relativity in the early twentieth century is one of the most beautiful specimens of the way arbitrary, even fanciful, postulates (in this case, about parallel

lines) can lead to the most fruitful of consequences. This in no way implies criticism of the basic logical principles such as those underlying all mathematical systems. It is simply that in both origin and use those first principles must conform to the requirements of any sound hypothesis. And their "iffy" form indicates that.

The *then* part of the phrase offers more difficulties, since a false antecedent — the "if" clause — can still lead to inevitable and necessary consequents. If all men are quadrupeds, then John Smith, being a man, undoubtedly has four legs. The conclusion is alleged to follow logically even if the premise is fantastic. There has been a lot of confusion on this point, arising chiefly from what John Dewey has called the major logical fallacy, "the conversion of a function in inquiry into an independent structure." Why do some propositions follow necessarily and conclusively from others? There is nothing mystical about it. The logical processes in which one proposition follows rigorously from another are conditions or stipulations that make consistent thinking possible; without them the operations whereby we progress from one stage of inquiry to another would be meaningless. Certainly four is the sum of two and two, and John Smith must be mortal if he is human, because if these conclusions did not follow there would be no intelligible syntax to arithmetic or to language. Nothing would be said. Four *is* a two and a plus sign and another two. That is what "four" means. There is no independent law above human inquiry that makes deductive implication function the way it does. Nor is its validity to be determined by any precious routine of logic. The worth of deduction, once more, is to be found in what results from it. Were the results consistently mischievous or unintelligible and kept telling us, for instance, that John Smith has four legs and $2 + 2 = 4.3$, then the "extra superfine" quality of deduction would simply turn into a caricature.

It is of immense importance to have, as in mathematics, logical relationships that are compelling and exact. But the importance

does not warrant the elevation of these relationships into eternal metaphysical truths, above and beyond ordinary human experience; and that is precisely what has happened when either the basic principles or the processes of deductive reasoning have been divorced from their context. That context is always procedural — the procedures used by the human animal in trying to solve its problems. "If-then" is one of such procedures, an extraordinarily exciting one, to be sure, but not sacred.

It should be superfluous to add that no criticism of deductive reasoning is intended by this. Deduction plays a completely indispensable part in all thinking and in all science. Once a hypothesis has been developed in any field, an entire body of organized and integrated knowledge is set into motion by the deductive processes and can be brought to bear upon the hypothesis and its implications. Deduction requires no defense. The point of the preceding pages is simply that (with the possible exception of mathematics) deduction cannot legitimately be cut off from the other phases of thinking and elevated to some superior and privileged position. Neither can induction. For thinking is a unit.

VERIFICATION

The argument that has been developed for the third and fourth steps of an act of reflective thinking should by now be clear: the values of hypothesis and of implication are to be determined by their predictive capacity, by what happens, by the direct observation of results. Verbally, then, the fifth and last stage should be a simple one, since here the problem is "solved" as the predicted consequences are "verified." But a little consideration will show that this step is far from simple. When does solving and verifying happen? Does a bell ring? What makes us give assent and say "yes" when we come to the end of a problem? What is there coercive about either demonstrative or empirical proof that makes us finally satisfied with our thinking efforts? Once more, any

definitive handling of questions like these is not in the agenda of the present chapter, but that should not prevent us from making a few suggestions.

These questions are not in the present agenda because they boil down to nothing less than the meaning of "truth," and that, as Pontius Pilate, among others, recognized, is not a simple matter. A bare mention of the problem of epistemology, for example, would complicate one familiar doctrine of truth, or verification, or proof — whichever is preferred; for that doctrine holds an idea or theory to be true when it agrees with the facts, or reality. Called the correspondence theory, this approach would in some way make ideas and thinking copy the world and would base their validity upon the apparent accuracy of that duplicating process. The traditional problem of knowledge that occupied part of the preceding chapter should throw great suspicion upon so glib a statement. Not that the epistemological paradox is being taken too seriously, but in this connection at least, it is a good insurance against the innocence that sees no difficulty in making an idea true because in some literal fashion it reproduces the physical world. If there is anything at all of value in epistemology, then the fact, for example, that the earth is really round is not too sound a proof for the proposition, "the earth is round," since the very concepts of earth, roundness, and the rest are themselves functions of a human experience. The correspondence theory fails to do justice to the intricacies of that experience.

Whereas the so-called coherence theory of truth places too much reliance upon the internals of experience. It argues that ideas are true if they agree with the whole human complex of other ideas. Consistency is the basic criterion of thinking. All truths must hang together and be interdependent. The advocates of this approach are among those impressed by the beauties of deductive implication, since the verification of any rationalistic system, say, one of the geometries, is completely dependent upon

the internal coherence of its definitions, postulates, and theorems; it does not rely upon any traffic with external data. That is why demonstrations can be perfect, universal, and imperative — but not necessarily relevant. Not necessarily relevant, that is, to the brute physical world that stretches beyond systems and human consistency. Man may spin out his perfect logical structures, but they apply to that physical world or they do not. Some, like the system of our present physical sciences, do; others, like Ptolemaic astronomy or medieval medicine, do not. Internal consistency is a token of neatness and competency; applicability is something else again. A completely coherent system (like the perfect lie of traditional theory) is at best a *tour de force.* At worst, its exactness is — to misquote Whitehead a little — a fake.

This "applicability" we have been talking about will return us to the thesis of the past few pages; that is, that verification depends on prediction — not verification in any absolutely rigorous sense (as mentioned before, that would be a logical fallacy),[5] but verification in the sense of a high degree of probability, which is all that common sense or, for that matter, the most exacting requirements of scientific method expects. There is a name for this theory of truth, too, and one that retains the alliterative *c* — the consequences theory. A problem is solved when the consequences predicted on the basis of the amplified provisional solution, the hypothesis, are observed to appear.

"Observed to appear" is not meant to be a question-begging phrase, although it is intended to be so elastic that it can include all the operations that the history of human experience has come to rely upon. These will range from the baby's familiarity with

[5] The only way "affirming the consequent" can lead to a valid result is in exclusive propositions like "if *and only if* you practice, can you learn to play the violin." Here, two conditions are included. The mathematical propositions that lead to certainty are characteristically of this "if and only if" type.

the heat of a stove to the research technician watching the pointer on a dial; from a Gallup poll's success in an election to the astronomer's clock-and-hair-line record of a point of light; from seeing which way a frog has jumped to the Einsteinian equation that accounts for an error of thirty seconds in the orbit of Mercury. Verification is neither simple agreement with reality nor internal coherence. Aspects of both of these will of course be part of the procedures of predictability, but it will be the procedures that dominate. The solution, as well as the meaning, of problems is always operational. To solve a problem in any field of inquiry demands a knowledge of the field and of its techniques.

When the predicted consequences, based upon indicated operations, are then observed to appear, the problem is solved, and reflective thinking can turn from this difficulty to another. It has come to the end of one particular process. The indeterminate situation has become clarified, which is what coming to an end means, end being either (*a*) the close of an inquiry, or (*b*) the purpose or goal or end-in-view. Of course, there really is no permanent "close of inquiry," since each resolved situation sets the conditions for another series of indeterminacies. The deliberate fostering of these serial indeterminacies is one of the principal functions of organized science.

Very seldom is verification as simple as the paragraphs above make it. The five phases may all have been clicked off, and the situation still remain indeterminate. In which case there is a retracing of steps. Perhaps the initial diagnosis of the problem was not sufficiently sharp; or the range of hypotheses was not wide or rich enough. One of the discarded hypotheses may have to be reclaimed; or possibly the processes of implication were not accurately developed. At some place along the way, from the earliest presence of the difficulty to the failure of the predicted consequences to appear, reflective thinking must find a hold where it can review its work and start in again. Such a reworking may be a

matter of seconds with the retraced steps blending imperceptibly into one another or it may be a matter of years, even generations. But if thinking is a response to an unresolved problem and man remains unsatisfied until the original difficulty is overcome, then this reworking must continue up to the point where the problem is a stimulus no longer, where, in other words, a solution has been verified — verified through the perhaps prosaic process of seeing what happens to our predictions and expectations. This is the only bell that rings, but it is loud enough.

THE EXPERIMENTAL APPROACH TO ALL KNOWLEDGE

It must be repeated that this discussion of the five stages of an act of reflective thinking is not to be confined to the perhaps artificial problems that may be discovered in logic textbooks. *All* problems from the most trivial to the incredibly abstruse can be handled in this way. Reflective thinking *is* scientific method — as will be insisted in the next section — but it is equally applicable to the most casual item in everyday commonsense experience. Putting it another way, problem-solving is an essential ingredient of a great part of human knowing. This is a point of view, however, that runs counter to many longstanding philosophic formulations and it needs to be worked through a little.

Particularly does it run counter to the earlier exposition in Chapters II and III of some of the traditional points of metaphysics and epistemology. Those discussions of the classical problems of reality and of knowledge were based upon several basic assumptions, decisive in the direction in which they pointed. Two of them, probably the most decisive, require critical examination. One is the assumption that human knowledge is and must be Knowledge-about-Reality, Reality being understood as self-sufficient and antecedent Being, as a "given" that is certain, unchangeable, and monolithic. In other words, the world is "here" just waiting to be known. The second, closely allied to the first, is that the knowing

Self is in some way outside the world which it knows, that it is a spectator of Reality, and that therefore knowledge is the relation between a subjective mind and an objective world, the one passively contemplating the other. From assumptions like these emerge the epistemological riddles that were presented earlier. A tree (T_1) is looked upon (metaphysically) as a fixed segment of reality which (epistemologically) is a constant challenge to an outside knower who in his head makes a copy (T_2) of the "real" tree — thus initiating a whole chain of fascinating problems.

As pictured in these traditional problems, human knowledge becomes, for one thing, an affair of contemplation. Somehow, the perceiving mind is thought of as looking in upon nature; it is a spectator. But, unlike the ordinary spectator who is usually harmless, the knower infects what he knows; he transforms by his very act of knowing the objective world into a subjective image that changes and distorts what is really there. This particular kind of infection is called epistemological and what allegedly results from it has been sufficiently portrayed in an earlier discussion.[6] Thus, there arises the general problem of knowledge or, as Dewey puts it, the problem of knowledge in general.

> The problem of knowledge as conceived in the industry of epistemology is the problem of knowledge *in general* — of the possibility, extent, and validity of knowledge in general . . . [This] problem of knowledge *überhaupt* exists because it is assumed that there is a knower in general, who is outside of the world to be known, and who is defined in terms antithetical to the traits of the world. With analogous assumptions, we could invent and discuss a problem of digestion in general. All that would be required would be to conceive the stomach and food-material as inhabiting different worlds. Such an assumption would leave on our hands the question of the possibility, extent, nature, and genuineness of any transaction between stomach and food.[7]

[6] *Supra*, pp. 71 ff.

[7] John Dewey in *Creative Intelligence* (New York, Henry Holt, 1917), pp. 32-33.

Once the knower and known have been severed by a general operation, to put them together again — as with Humpty Dumpty — is quite a task.

A Non-Epistemological Approach to Knowledge

It is a little strange that epistemology has exercised the fascination that it has. After all, the net result of the difficulties labeled epistemological would be to cast so grave a suspicion upon knowledge-in-general that any specific act of knowing would logically collapse. This is perhaps why the scientist has consistently refused to be impressed by a problem of knowledge. He will not show "any enthusiasm over general philosophic formulations which display their competence to account for a total field of inquiry by the method of rendering inexplicable and unaccountable everything that actually occurs within that field." [8]

The scientist uses a different set of assumptions from those of the epistemologist, since he is interested always in specific problems and in specific kinds of knowing. Knowledge becomes less an affair of esthetic contemplation on the part of the knower and more a matter of methods of control and of the actual procedures of scientific inquiry. For example, knowing a tree is not simply a matter of standing off and looking at it or even of feeling it. To the botanist, or the nurseryman, or the artist, or even to the casual stroller in the park, knowing implies certain operations that will bring the series of events called a tree into more fruitful relationships with the knower; operations, as the case may be, like analyzing and classifying leaf structure or bark fibre; or cross-fertilization, trimming, or special techniques of soil cultivation; or experimenting with the tree as part of the composition of a landscape by tracing the grouping, or shadows, or light pattern that it makes; or even the simple noting that the tree is pretty, or that it provides

[8] Joseph Ratner in *The Philosophy of John Dewey* (The Library of Living Philosophers, Evanston, Illinois, 1939), p. 57.

welcome shade or sheds a pollen promoting hayfever, or that it could only have been made by God. The bare act of sensation or perception, about which epistemology worries so much, is the initial step that prefaces knowing-procedures (even those of esthetic contemplation) and instead of exhausting the entire dimension of knowing is more characteristically the trigger setting it off.

To put it differently, knowledge, whether of the casual or scientific variety, involves no decisive distinction between knowing and doing, between intellect and action. The context of knowing or of inquiry is fixed by a particular problem or set of problems (not necessarily practical ones), and therefore the most satisfying assumption in the field is one that aims to integrate, rather than separate, problem and solution. If there is a problem of knowledge, it is not primarily epistemological, that is, not one of trying to get subjective knower and objective world together; it is a contextual one, that is, the initiating and directing of a series of inquiries called into existence by a difficulty to be overcome. Significant knowledge about an atom or a star, a human mind or a social system, a jellyfish or the history of your country is not achieved by arresting the inquiry at the very start on grounds of first degree epistemology. Whether we can ever actually see an atom or experience another's mind or feel like a jellyfish or be on the shores waiting for Columbus may be fascinating questions; but they do not preclude the growth of knowledge about these things. That knowledge in every case is different from what the spectator theory assumes. On the contrary, what is assumed is actions like those demanded by Wilson cloud chambers, Geiger counters, spectroscopes, sphygmographs, statistical indices, documentary analysis, and thousands upon thousands of other entries to knowledge, entries that are physical, not merely mental.

This is a bare outline of an approach to knowledge different from that presented by traditional philosophy. Yet even such a minimum of assumptions suggests a number of interesting impli-

cations. For one thing, the actionable and positive qualities that seem indissolubly connected with it are not simply matters of rhetoric: a doctrine of knowing which emphasizes the solving of problems and thereby the controlling of man's environment through methods of inquiry must find room for the specific experiments that problem-solving demands. An instrumentalist theory of knowledge is not simply one more kind of epistemological dialectic. It is rather a description of the way problems are actually solved, above all by scientific method. The five steps of reflective thinking that have already been presented afford a sort of distillation of what goes on when difficulties are handled effectively; that outline is at the same time an outline of the stages of knowledge, of human inquiry. The sensitivity to problems, their diagnosis, the formulation of tentative hypotheses and their implications, the verifying or disverifying of those hypotheses — that is the context in which human knowledge operates. If there is a specific psychological problem involving the relation of nervous tissue to physical stimuli, a problem that can be stated operationally, such a question can take its stand along with a host of others; which does not mean that it is the supreme consideration in this whole area of human inquiry, underlying everything else if not, indeed, vitiating everything else.

There is another assumption that accompanies this junction of knowledge with problem-solving and scientific inquiry, an assumption which is metaphysical rather than epistemological. The spectator theory of knowledge presupposes a given and fixed reality that, as it were, waits to be uncovered. Knowledge thus becomes, as John Dewey points out, a quest for certainty, for final revelation. But a contextual theory needs no such assumption. To solve a problem means in some way to alter the situation which has set the problem; a transformation of the subject-matter of experience becomes compulsory. The subject-matter is not some aloof and immutable Reality, standing off from the human spectator and

teasing him. Experience is the result of an active co-operation between knower and the known, in which manipulation, experimentation, and control take the place of the contemplation assumed in the classical theories of knowledge. Knowing is doing, not simply beholding. Every laboratory is a scene of action. Thumping, pulling, squeezing, stretching (however refined and subtle they may become), not to mention downright hammering, are as integral a part of the experimental process as is the most exquisite pointer-reading. And therefore the age-old distinctions between certain and uncertain, between matter and mind, between object and subject become blurred and less plausible. The metaphysical and epistemological chasm separating the knower from the known seems less forbidding.

This is not the place to develop the possible results of this kind of assumption, although it does seem necessary to suggest that the revolution scientific inquiry has introduced into the relation of man to nature has not yet made a sufficient impact upon philosophy. To illustrate, the customary metaphysical assumption that nature is finished once and for all, and that it will allow nothing more enthusiastic than contemplation of itself by a sensitive observer, is overthrown by almost every action of scientific inquiry. Those actions postulate a much more exciting metaphysics, one that, in the eloquent words of John Dewey, discovers a world "which has not consistently made up its mind where it is going and what it is going to do," and a kind of knowledge devoted to "administering the unfinished processes of existence so that frail goods shall be substantiated, secure goods be extended, and the precarious promises of good that haunt experienced things be more liberally fulfilled." [9]

A final assumption of the experimental approach to knowledge is the emphasis it puts upon methods of knowing. Problem-solving,

[9] From *Experience and Nature* (Chicago, Open Court Press, 1926), pp. 76-77.

particularly as it is exploited by scientific method, demands the use of techniques and instruments and operations; in fact, the operational element has become the crucial test of valid scientific knowledge. Not that operations are everywhere identical. Different problems and different subject-matters need separate treatment: the techniques of economics are not necessarily those of physics. But there does seem to be an identity of approach — the process of knowing becomes meaningful and significant when it specifies the methods through which it proposes to solve problems. This point will be developed in the following chapters.

REFLECTIVE THINKING AND SCIENTIFIC METHOD

The point of this brief concluding section can be stated very quickly: scientific method is the most highly developed, most intricate, and most successful expression of reflective thinking. There is nothing startling in such a statement. Nevertheless, it makes certain assumptions which ought to be recognized, for without them the argument may appear too simple and too dogmatic.

To start with, a preliminary assumption is that reflective thinking and logic refer to the same process. That is why there has been little or no attention paid here to logic — especially formal logic — as something separate.[10] But is not this point generally admitted? Not necessarily. Formal logic has often been regarded as something impersonal and detached, in which there is scant attention paid to human desires and intentions, to change or growth, to context. A syllogism functions in an apparently objective and dehumanized dimension, as does a mathematical equation. Yet these forms of logic (or of mathematics) are by no means inde-

[10] The words "thinking" and "thought" themselves have been looked upon with suspicion by a man like John Dewey. He prefers to substitute for them the term "inquiry," since he is concerned chiefly with a *process*: "inquiry" seems to have the dynamic flavor that "thought" lacks. Moreover, "inquiry" has a much closer verbal connection with scientific method than "thinking" ordinarily has had.

pendent of human inquiry and forced upon it in some coercive manner. In baseball a man must reach first base before he goes to second: he is indeed coerced by a formula or rule. Such coercion, however, is hardly external or prior to the game that is being played. A rule, once established, becomes something of an absolute procedure, which does not mean it can be taken out of its baseball context. No more (except for certain specified purposes) can the rules of thinking — what we know as logic — be divorced from their physical and biological and sociological setting, their matrix, as Dewey calls it.

Another assumption is that man did not have to depend upon a theory of logic or thinking to begin making inquiries, i.e., seeing problems and trying to handle them. As John Locke put it, man did not have to wait for Aristotle in order to become rational. On the contrary, the structure of formal logic was historically determined by the very procedures that were found to be of help in solving problems. Consequently, the methods of human thinking have changed (or they ought to have changed where they have not) as have the conditions that men have faced. As with all the arts, techniques of control arise within the ambit of the material being worked upon, not outside of it. And those techniques, to continue to be effective, must develop along with the material they propose to handle. This corollary has been badly neglected and the resulting failure of forms of thinking to be as adaptable as they must be, has constituted one of the great human tragedies. The "horse-and-buggy" mind is not confined to the social scene: it rides along in religion, in the arts, in philosophy.

A final assumption is this: that scientific method is another name for the procedures of thinking and logic, at least when those procedures begin to be deliberate, articulate, and self-critical; above all, when they reflect the changes that technology has introduced into human experience. The scientific enterprise is not something separate from the area of human problem-solving; it is, in fact,

the most profound expression of "free intelligence engaged in inquiry."

Therefore a further discussion of scientific method could be elaborated along the lines of the five-step analysis already presented. Indeed, terms in that analysis, like diagnosis, hypothesis, implication, probability, verification, predictability, and others, have been lifted from the characteristic vocabulary of the sciences. The elaboration would of course concentrate upon the mechanics of the instrument and the laboratory in a way that perhaps would not be necessary for a discussion of plain reflective thinking; but — at least this is the present contention — these procedures of problem-solving, of human inquiry, of scientific method form one grand complex or process, the process whereby a human animal adjusts himself to his surroundings and his surroundings to himself.

Our interest here is in ethics and the social sciences rather than in the natural sciences. Therefore, the typical questions that must be asked would be of this kind: Is anything like legitimate reflective thinking or scientific method really applicable to the field of human values? If so, how? Are the social sciences truly sciences? And if so, just what does that mean? Can the great economic and political and moral issues be handled in any other way than that of wishful thinking, blatant rationalizing, or hysterical passion? If there is such a way, has it been tried? Questions like these are not exactly push-overs . . . Yet they cannot be side-stepped forever.

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PART TWO

Chapter Six

SCIENTIFIC METHOD AND VALUES

IN THE FIRST CHAPTER it was suggested that at about this point would be introduced the major orientation of the book: the contention that philosophy's peculiar concern must be with human values and therefore with social problems. That note is not absent, of course, from the opening five chapters, but the material handled there is largely explanatory and orthodox (although the difficulty of determining just what is orthodox is not overlooked). This does not mean that the remaining seven chapters will be only argumentative and unorthodox. Yet it is only fair to remind the reader that something of a special plea will be made from now on, that a point of view rather than an objective exposition will receive increasing emphasis.

As a matter of fact, the synonymity of scientific method and reflective thinking, underlined in the closing pages of the preceding chapter, is itself a good transition to a point of view. A refusal to separate the two is more than a refusal to separate the ultimate refinements of human inquiry from the elementals of problem-solving or to divorce formal logic from its context in human experience; it also indicates a belief that legitimate thinking about anything — values or religion or revolution — can, indeed must, be scientific. This may seem a very bald belief and needs to be covered a little

THE SCIENTIFIC ATTITUDE

It is only a fake science that never goes beyond the tricky rou-

tine of a laboratory technique, the science that is found on a Hollywood set with its alembics and gaudy test-tubes, its rheostats and winking bulbs. Instead of anything as artificial as that, scientific method is primarily an attitude of approach, a temper of judgment, a state of mind. This is in no way to minimize technology. On the contrary, the imperatives that technology presents to a theory of value will be emphasized later on. But some disintoxication from laboratory-itis is necessary, especially when discussion centers on values and the social sciences. Every area of experience, as was argued earlier, is equally real and demands its own peculiar treatment. This would imply that no one scientific methodology or technique can handle successfully all phases of human experience. Contemporary mathematical physics, possibly the most rigorous of all technical disciplines, is no more fitted to serve as a model for all segments of knowledge than was Newtonian mechanics. Indeed, the collapse of the glorious eighteenth-century Age of Reason was in no small way a result of just this kind of disenchantment — disenchantment with the idea that all knowledge must be like the Newtonian cosmic machinery, a clean, deductive structure based on a few simple mathematical laws. There was to be, for instance, a social physics and a religious physics to account for economics, politics, and God. The same procrustean attempt was made in the last century to fit every science, social as well as natural, to its evolutionary bed. But human experience is not so homogeneous that it can be crammed, all of it, into any one bed.

Tentativeness

What, then, is this temper of mind that characterizes the methods of science? Much more significant than any particular routine is, first, the hypothetical attitude. The way hypotheses work was sketched in the last chapter; here the emphasis must be upon the significance of those operations, a significance that can hardly be exaggerated. To be scientific is not merely to use instruments. It

is rather to use the powerful weapons of tentativeness, probability, and critical caution, the only weapons that can overcome the persuasion of allegedly final judgments. Such weapons are the negation of dogmatism, and they constitute the unique contribution which science has made to modern culture. It is not simply that the use of tentative and hypothetical judgments furnishes a powerful antidote for dogma of any kind; of more importance, such judgments provide the one tool man has discovered that allows him to manipulate a mass of technological knowledge which is revolutionary in its impact. Were science as absolutistic as some other human enterprises (examples of them depending on one's personal bias), it could never accommodate itself to the dramatic changes that each year brings forth.

That is why even in its majestic natural laws science does not find ultimate, totalitarian pronouncements: laws are hypotheses or theories that have reached a present stage of overwhelming probability. They are indeed true in a given area at a given time; "tomorrow," said William James, "we shall be prepared to call them false." This temper of deliberate doubt and suspended (final) judgment is applicable to the most rigorous findings of astrophysics; how much more would it be to the lesser claims on knowledge that man can make? There is no more characteristic test of the scientific attitude than precisely this refusal to become awed by any human discovery or invention to the point of staking it out as something eternal and unalterable.

Tentativeness and Action

Before any specific inference can be drawn from such an observation, one thing must be made clear. It is a travesty on scientific method to suppose that the attitude of tentativeness and reliance on probability is in any way a confession of indecision. Action is not suspended because of the absence of eternal verities; on the contrary, as will be noted shortly, one of the distinguishing marks

of science is that it is above all operational. The idea that action is inhibited because hypotheses fall short of universal necessity is sheer caricature. The history of science is the surest repudiation of such a fantasy, since nearly every discovery has been projected along advance lines that, at the outset, have been no more than provisional, even makeshift. Hypotheses by their nature are actionable. Unless predictable operations can follow from them, they are simply meaningless. To require certainty before action contradicts the entire sequence of scientific method.

But this is no man of straw being set up, for once we leave the ambit of natural science the myth of no-action-without-certainty becomes conspicuously present and mischievous. For instance, the glorious name of "liberal" has by now, in many circles, turned into something of a joke if not an indictment; the reason is that it has come to stand for actionless indecision, for a kind of political vacillation. (That other terms, for example, "progressive," are more appropriate, is not denied.) Thus, the liberal is accused of sitting on the fence or of standing with "both feet firmly planted in mid-air," of seeing both sides of the question and so being blind to either, and of being such a split personality thereby that he cannot possibly make up his mind on anything decisive.

That this has happened to some persons must be admitted: the present argument is no apology for a tired liberalism. But the accusation rests clearly upon a major assumption — *that unless there is absolute certainty in economics and politics, nothing can be done.* This, of course, is the basic assumption of all brands of totalitarianism. Unless there is a religious, not to say a mystical, unanimity on doctrine, action is postponed. No place for the opposition, for the exception, for the minority can be found. For, so runs the argument, without certitude there can be only (liberal) fumbling, hesitation, and impotence. It is not too much to say that the antidemocratic delusions of the years leading up to the late war found their strength in the fallacy that tentativeness of judgment means

There is absolutely nothing in the history or the techniques of scientific method to justify such a proposition. When was a 100-to-0 chance demanded before experiment could be performed? Even the "science" of poker-playing would collapse if certainty were required before a bet was risked! Action is not curtailed by even a 60-40 chance, or less — not merely horse-racing action but scientific action. What *is* supported by scientific method, however, is that when action is initiated on a less-than-certainty basis, provision is made for the "minority" hypothesis. Even though, as one of a number of multiple working suggestions, it is not at the moment being acted upon, the idea is not liquidated but is ready to serve as a future substitute for a rejected or unsuccessful theory. There is a tolerance here that often is missing elsewhere.

Once more, a mistake should be avoided in interpreting the present argument: when scientific operations are performed on the basis of the probable and tentative truth of some hypothesis, they are not, for that reason, entered into lackadaisically and without spirit. Any such notion would be childish nonsense. When hypothesis *A* is accepted for purposes of experimentation, it is genuinely accepted; and, for the course of the experiment, it is as resolutely followed as if it came from Mount Sinai. The experimenter does not waver because he is dealing with a mere hypothesis. The only way any hypothesis can be given status is to employ the if-then mechanism: what predictable implications will follow, granting, for the time being, its validity?

On the other hand, the scientific use of hypothetical method does not permit theories to become dogmas. Hypothesis *B, C, n* . . . will still remain. Implications and verified consequences will not be ignored just because hypothesis *A* seems to be particularly august. Although a working theory will be held provisionally true while experiment goes on, observation is not sacrificed to bias. This is a lesson of scientific method which must be learned everywhere. Until it is learned we shall continue to mistake prejudice — public

or private — for eternal truth; we shall continue to be unthinkingly dogmatic when we claim to believe in capitalism or socialism, Methodism or atheism, selfishness or altruism, and we shall see no reason for doing anything about these beliefs except to assert them still more loudly.

Operationalism

The present discussion is about certain aspects of what can be regarded as the scientific attitude. Tentativeness is one. What has been called "operationalism" by Professor Bridgman of Harvard is another. (However, the idea is little different in substance from the pragmatic formulas of Charles Peirce and William James, or from the instrumentalism of John Dewey.) It is based on one of the requirements of any good hypothesis, i.e., that it lead to verifiable experiment, where something can actually be done with it. This requirement may be expanded to include an entire philosophic attitude; at the very least, it throws a floodlight on the meaning of meaning.

The operational attitude can be expressed quite simply: the meaning of any idea depends on certain specific procedures that must accompany it. When those procedures are absent, the idea is thereby meaningless. It is not necessarily a bad idea or even a false one; it is merely outside the area of comprehension. For example, suppose there were two, and only two, objects in the entire universe. Call them *A* and *B*. They can be atoms, lovers, stars, what you will. Suppose now they were able to notice that the distance between them was growing smaller, that they were approaching each other. Which of them is moving? Does *A* move to *B*, *B* to *A*, or are both in motion? Obviously, since there is no other thing in the universe and so no frame of reference to go by, there is no way of finding out. No operation can be performed to indicate how the problem can be solved. Therefore the question is meaningless. If *A* (female) is confident that *B* (male) is the one in motion,

intuition or transcendental revelation would be the only "operations" available.

Professor Bridgman uses examples chiefly from the physical sciences. For instance, he questions whether there is any meaning to a problem involving motion of the most distant stars since there is no unambiguous method for determining that motion. Perhaps his most cogent illustration shows that the concept of length is a "middle-class" concept, depending on simple measuring-sticks. But when we speak about comparative or relative lengths between protons or between nebulae, meaning vanishes because entirely different operations are demanded. In other words, there is no operational way of correlating yards or miles with the units required to deal with atoms or extragalactic space.

But operationalism is in no way confined to physical or even to natural science. Physical or laboratory procedures are not the only legitimate operations in scientific method. The travesty of insisting, because men and nations cannot be crammed into test-tubes or become as mutely responsive as litmus paper, that therefore the sciences of psychology and sociology are misnomers, indicates an evasion of this whole point. Operationalism connotes a general attitude or methodological standard. It is to the effect that hypotheses of any nature in any field must carry with them the means for their justification or rejection. Those means or operating procedures do not have to be the monopoly of physics or chemistry. They can be as different from physics as the calling of a general election, or instituting a public health service based on the interpretation of vital statistics, or experimenting with new teaching devices. One of the persistent assumptions we have been accepting throughout is that each area of human experience demands its own peculiar tools. But the over-all tool is the spirit or temper that is being proposed here: significant concepts in any dimension of man's knowledge are those that present the working techniques which alone make the concepts meaningful.

Criticism

The third element in the scientific temper of mind is the critical characteristic highlighted in every portrait of science. But what does it mean to be critical? It is not sufficient to proclaim that to be critical means to be skeptical, to take nothing for granted, to refuse the aid of unsupported authority or hearsay. These are elementary points, accurate enough — if correctly interpreted, but manifestly incomplete. It would be more honest, and unquestionably more sophisticated, to insist that critical means the ability to make intelligent choices.

A critical attitude of mind is not one that is just careless and indifferent. Criticism and indifference are incompatible. The very least a scientist must do — even if he is in truth the much-caricatured entomologist devoting his whole life to one rare butterfly — is to decide what data are relevant for his study, what problems are significant, what hypotheses fruitful. Such decisions can never be completely objective or neutral. They involve selection, choice between alternatives, preference among competing interests, saying yes here and no there. This process of selection automatically establishes a system of values.

This will provide the necessary transition from the topic of scientific method as such to that of values. The two are not distinct. One of the great tragedies of modern technology has been to assume that they were; the result has been a science that seeks so often to be amoral, and an ethics that claims jurisdiction above that of scientific apparatus. But can we be scientific about values? Is ethics exempt from reflective thinking?

VALUES AND REFLECTIVE THINKING

The origin of reflective thinking, it will be recalled, is a problem which must be overcome, a difficulty which demands solution. Problems are characteristically set by the presence of two or more incompatible alternatives — the forked-road situation. Consider

now the process of evaluation. Is it any different? Do not value and valuating also arise in a choice between alternatives? Man has to choose constantly between *A* and *B*. Choice is forced upon him in every area of his experience — he has to select a wife, a book, a college, a dessert, a way of life. He prefers *A* over *B* here, or *B* over *A* there; and that act of preference for *A* or *B* makes it, for the chooser, the more valuable. Without the competition between the forks in the road, thinking itself would have no occasion to appear. Just as clearly, evaluation, an equally characteristic human expression, also arises when an option must be exercised.

Moreover, as with the forked-road situation, a problem does not have to stimulate reflective evaluation any more than it does reflective thinking. A man can go to the right or to the left without thought, almost without consciousness, for he can be conditioned and habituated to make an almost automatic decision. The difficulty will indeed be solved if he takes the right- or left-hand forking blindly or by the toss of a coin, solved in that it is no longer an immediate issue. Just so *A* will be more valuable than *B* even if preferred for completely unthinking and uncritical reasons. The presence of a problem demands a choice: it leaves the way open for a reflective choice. The origins of the processes of thinking and evaluating appear to be much the same.

How can evaluating become reflective — or scientific? What have we got to go by in making the crucial decision between *A* and *B*? At precisely this point is introduced one of the most notorious of allegedly vicious circles. We have suggested above that when *A* is chosen over *B*, it is by token of that choice made automatically more valuable than *B*. In other words, value depends upon choice. As the ethics textbooks sometimes put it, a thing is not chosen because it is good; it is good because it is chosen. The viciousness of this circle is supposed to be established by asking: But why is a thing chosen? And the answer is: Because it is valuable — or good. Choice is not made indiscriminately (al-

though it may be unreflective), but instead rests on the basis of previous choices. Thus we have value depending on choice and, in turn, choice depending upon value. The circle is viciously complete.

A digression ought to be permitted at this point directed to the viciousness of the vicious circle objection. Waiving that digression, it at least can be suggested that all thinking is circular, and what of it? The very relation between induction and deduction would be a clear illustration of going around in a circle, since principles are determined by data, and data point for their derivation and significance to principles. That "all men are mortal" is nothing esoteric or mystical, but depends upon the observation of individual men dying. But that I, being a man, will die depends in turn upon the general proposition that, being a man, I am mortal. Circularity here is evident and interesting but not — except in my case — fatal. The back-and-forth movement of reflective thinking is notorious. We test assumptions on the basis of their implications, but the implications themselves depend for their life and meaning upon the very assumptions they are expected to judge.

There are, to be sure, simple fallacies that the textbooks hold up as horrible examples of circular logic (like, "God exists because the Bible says so, and the Bible must be believed because it is the word of God"), but these are elementary enough not to fool very many. There is more to valid thinking than merely the avoidance of circles. Even the definition of words is ordinarily circular despite the fact that one of the traditional rules for good definition denies it; but any scrutiny of a dictionary will indicate that again and again definitions can do no more than present synonyms which say the same thing in different ways without breaking the circle. What good definitions — and thinking — do, however, is to widen the circle of meaning, or, if that is bad geometry, to change the circle into a spiral. Thus, words or ideas become richer and more significant when they are placed in larger contexts.

There is an expansion of meaning, a broadening of perspective: this is what finally breaks through the circle.

The same process of enlargement applies to values. To say that a thing is good because it is wanted, and wanted because it is good may be superficially naïve. But it would be dangerous to brush away the statement as inherently meaningless or vicious. Actually, it is a realistic observation, accounting for (*a*) the fact that choice is fundamental in the establishment of value, but that (*b*) it is not made in a vacuum. When a man prefers *A* to *B* in any dimension of his experience, he is not starting afresh with nothing to go by. On the contrary, he has at hand an entire system of mores, of ethics, of already-determined cultural choices. When he is tempted to kill someone, he does not have to start from scratch. He has available *the record of man's long-time preferences, preferences in the general area encompassing his basic attitudes of life, his deep-rooted tastes and interests, his objects of respect and reverence. These are human values.* Certainly they are present, and he makes decisions on the basis of them — he "wants things because they are good." Just as surely "things are good because he wants them," for it is only when a man performs the act of decision — and in no other way — that he sets up what are, for him at least, the goods of his life. To ask which has priority, the want or the good, is no different from the old hen-and-egg business. The *process* of evaluation is a constant to-and-fro process, like all thinking; it is not a simple, nor a vicious, circumscription. The very movement of the process makes it grow beyond the limits of any circle.

VALUES AND FACTS

The question whether we can think reflectively about values, whether we can be "scientific" about them, demands a few more preliminaries. One is the familiar separation between facts and values, so commonplace that it is rarely questioned or even ex-

amined. It was more or less taken for granted, to illustrate, in an earlier discussion of the relation between philosophy and science in which philosophy was regarded as more interpretative or evaluative than the descriptive activities of science. That there is such a rough-and-ready distinction between the two is unquestionable, and it serves certain purposes very well. But the separation can never be more than a rough-and-ready one, one of convenience and degree; it should not be turned into a difference that is crucial or categorical. If values are ever to be subject to the methods of science, they cannot be kept apart from facts.

This is assuming, of course, that we all know what "facts" are. The word is amazingly difficult to define: "reality," "truth," "actuality," and the like are the (circular) synonyms that are supposed to give it meaning. In any event science is supposed to deal with facts rather than with values. But science seems to prefer the word "data" to facts, and data are those objects and events which you have to take into account—a grammatically inelegant statement but one that indicates something of the scientific attitude. Data are the given elements that cannot be ignored; they are "there" in a primal and incontrovertible way. An example of a datum would be that water never rises unaided above its original level. Yet such a statement about data itself is an oversimplification, especially if it is taken to mean that data (facts) are "there" in a literal or physical sense as well. There is no intention here of repeating the earlier discussion of epistemology; the point is simply that, as it has been put, "facts are well-established hypotheses." Their very existence presents science with one of its most interesting basic assumptions, since often a "fact" may be a word, a mathematical symbol, or the explanation of why something happens in a particular piece of scientific apparatus. For example, electrons are very acceptable facts or data for modern physics, yet they are, by and large, the name given to account for changes on a sensitive plate when it is exposed to the cathode of a vacuum tube. Facts

certainly have to be taken into our reckoning, but that does not make them as obvious as common sense would suppose.

Furthermore, the scientist fails to be impressed by just any fact. Everything is not taken into account. Certain data are accepted, others are rejected, still more are neglected. As with problems, only significant data are selected. (More accurately, those data are significant that are selected by natural science.) Indeed, instead of data ("givens"), one might substitute capta ("takens"), since the act of choice is crucial. It is not too much to say that facts are those objects and events which natural science (and common sense, too,) has agreed to choose as important. The facts of chemistry are not the facts of the everyday world — acids and bases are factual for one, hard and soft for the other. But neither are the facts of everyday common sense entirely catholic: many allegedly non-factual things are omitted — dreams, hallucinations, ghosts, even neuroses. They are omitted because, in an admittedly arbitrary manner, they are judged to be unimportant, and need not be reckoned with as sticks and stones and rain have to be reckoned with. The facts of American history will probably not include your Aunt Minnie. But her facts, too, are limited and determined by what she must take into account as important to her. In this way the gap between facts and values begins to diminish. Facts themselves become a kind of value because of this act of scientific preference. Thus, the scientist as well as the layman can never be completely objective or neutral: his data depend upon human decisions — not his alone but the long-time preferences of the human animal as well.

From the converse approach, the barrier between values and facts is just as easily pierced. For if facts are what must be taken into account, the phenomenon of human value has a claim to factual status which is second to no other. Human choices and preferences present a record that must be acknowledged. No matter what may be the accepted definition of facts, values can be ex-

cluded only by the most arbitrary of judgments. Even terms like physical or objective, not to mention real or actual, are all broad enough to provide ample room for the experience of valuation. This needs some elaboration.

The Language of Fact and Value

We can start that elaboration at a very simple level, the level of words. What about the statements in which facts and values are expressed — are they totally different? A little consideration will show that they are not, that linguistic propositions point both ways, that the difference between fact- and value-statements is, once again, a matter of degree rather than of essence. For instance, a proposition such as "matter is reducible to charges of energy, like protons, electrons, and other 'particles,'" is perhaps even more accurately expressed by translating it into "a satisfactory, or operational (even a 'good') way of handling matter is to regard it as reducible to, etc. —" The latter makes explicit what is implied in the former, that is, that the facts in this case depend upon a background of current scientific taste and decisions. A similar observation can be made about a host of sentences like "the scientific name for the process which, among other things, enables plants to avail themselves of light-energy is photosynthesis." "Proper" or "good" could be very correctly substituted here for "scientific." "Spinach is good for you" is but another way of saying: "the normal human diet requires minerals, vitamins, and other nutrients, many of which are to be found in spinach."

These illustrations may be somewhat loaded, and there is no intention to deny that there are innumerable statements that seem innocent of anything but a factual referent. "This is Monday, September 2, 1946" would be a case in point. Nevertheless, such signpost language constitutes but one of the limits or extremes of a range of meaning that merges imperceptibly into the affective, emotive language of interpretation. "This is a banana" changes quickly

to "this is an overripe (that is, bad) banana." "The traffic light has just turned green" is a factual assertion, but it gets its significance from a whole complex of social directives and imperatives. "Hitler was a paranoic" is more than a label in psychopathology. It suggests that we do not like paranoics, or, to be less crude, that they require treatment of a kind. The statements in which facts are represented are in no way insulated from those that denote values.

There is nothing strange in this overlapping of language, nor do these illustrations "prove" anything. The overlapping is not strange because all human experience has this double aspect of fact and value: Janus-like, it points two ways. The only thing proved is that language reproduces the ambivalence in a more or less accurate fashion. Words about fact and words about value have a tendency to blend into each other. Perhaps they ought not to. One of the more familiar contributions of contemporary semantics is that we must carefully distinguish between language that simply points to things and language that expresses feelings about things. It is imperative that we try to make clear which emphasis we are pushing at any moment, but the alleged clearcut separation between fact and value implied by the semanticist is found neither in their status nor in their symbols.

Are Values Subjective and Facts Objective?

There is an even more familiar contention that facts and values are different because the former are objective (whatever that may mean) and the latter subjective. Objective and subjective have been forever favorites in philosophy. They have come to mean many things. Without making an excursion into philosophic vocabulary, we can establish, fairly accurately, what the terms stand for in this particular discussion. When it is contended that values are subjective and facts objective, subjective is supposed to imply something merely mental. Values are only in man's head or, less crudely, in human experience. Beauty is not in the sunlit sea but

in the cortex and in the mores. Good and evil are not found among the stars or atoms but in human culture alone. Whatever the accuracy of those contentions, the "merely" or "nothing but" interpretation of subjective value — ignoring, as it does so often, the social experience of the race — seems to lead inevitably to moral scepticism, relativity, anarchy, and rampant individualism. For subjective value would mean only what *I* felt, a matter of my conscience, my will, my judgment. And *your* feeling and conscience, your will and judgment, might be entirely different. If a judgment about a beautiful sunset, or a good deed, or even about a true argument, is only in the head, it cannot be brought into the light; it is thus not verifiable, not susceptible to scientific treatment, and must be regarded as totally different from a fact out in the well-ventilated open spaces.

In this mischievous kind of dualism, objective is held, *per contra,* to refer to that which is non-mental, non-psychological, and in no way connected with human behavior. Facts are what they are, independent, absolute, literally and physically objective, that is, standing entirely outside the realm of man and his desires. A fact is like a mountain which is there for all to see, not like a private and hidden sentiment. That this understanding of facts is naïve and not allowable has been urged right along; it is disavowed not only by traditional epistemology but — which is much more to the point — by the very procedures of scientific method itself.

In the history of ethics, objective, however, has also been held to apply to values themselves. Not that they thereby become facts like mere mud or rocks or animals; objective as it applies to value is to mean something more like absolute and universal. The transition to objective (or certain) from subjective (or relative) is not difficult to trace: it has always been a kind of compensation, the return swing of the pendulum, and can be described this way. Since personal judgments alone, no matter how compelling within or how like the "starry heavens above," can be no guarantee that

anything is really right or wrong, and since there is no logical surety that men, however rational, would not judge the same act differently, one has to find a universal standard existing above and beyond the human scene. Man must look for and find something truly good, good independently of being judged so. Where could that standard be found? Why, in one's own conscience, of course! — providing it is the right conscience (i.e., mine).

In other words, if a subjective basis of value is criticized for its relativity and parochialness, just expand it from the here to the there, and from now to eternity — and thus generate an absolute value that, of course, is objective. What was my idea or yours has now been extended to a system applicable to all men at all times in all situations. My belief in the rightness of private property or of communism, of peace or of war, of God or of atoms, is no longer merely subjective: it is now objective with a vengeance, and everybody else must believe in that rightness or suffer the consequences. So, value becomes the canonizing of private intuition. The impertinence of this whole process is well captured by Jeremy Bentham's sarcastic remarks about "that sort of man who speaks out and says, I am of the number of the elect; now God himself takes care to inform the elect what is right . . . If, therefore, a man wants to know what is right he has nothing to do but to come to me."[1] The traditional use of objective as it applies to value has meant so often no more than simply the freezing of what was admittedly subjective in the first place. Some more acceptable meaning of objective must be found.[2]

Values and Preferences

Were value only subjective it could not fail to turn into a form of moral solipsism. No matter how urgently the philosophers may talk about a community of reasonable and moral-wise minds,

[1] *Principles of Morals and Legislation,* Clarendon Press ed., pp. 17-20 n.

[2] The following chapter will be devoted largely to this question.

and notwithstanding the loudness of one's internal trumpet of conscience, a value system that depends solely upon the intuitions of even the profoundest moralist can lay claim to nothing more universal than one man's solemn opinion. Such a system would be necessarily limited, circumscribed, and, not infrequently, sentimental or even vicious. But this is not to gainsay the unchallengeable contribution of a psychological analysis of value. There is no question that ethics or any other enterprise dealing with value must work in some measure with conscious and introspective selves. In this dimension are to be located the most induplicable elements in the whole human scene, immediate likings and enjoyments so direct and intuitive that communication, or even expression, may seem impossible. They may range from simple and unanalyzed preferences for, say, chocolate or blue to profound (but perhaps just as unanalyzable) affinities for symmetry or distortion, harmony or dissonance, belligerent activity or peaceful acquiescence. Subjective experiences of this kind cannot be denied; without some genuinely private and unique area in his life man would be an almost pathological extrovert.

Are these admittedly inner experiences "values"? Our assumption all along has been that valuation, like problem-solving in general, develops as conflicts arise. Immediate and non-cognitive experiences — such as "I like chocolate," or, better still, "I don't know anything about art but I know what I like," are matters of direct enjoyment, simply that and no more. This does not imply that they are to be condemned or even accepted grudgingly. But it does suggest that they cannot be fruitfully classed as values. Value originates when the enjoyed object is suspected, when it begins to cloy, when some other object or experience competes for recognition. As soon as its immediate status becomes doubtful, the possibility of the enjoyed object evolving into a value becomes to that degree more real. It is when a liking for chocolate has to meet the competition of strawberry that a problem, however elementary, arises.

It is when our liking for sing-song poetry or for juke box music begins to shock our sophisticated friends that we begin to wonder. We still may wind up with preferences for chocolate, jingles, and dance music, but they will have undergone a change; they will have begun to seem valuable, because they have been challenged.

This approach to the relation between elemental psychological likings and values is admittedly controversial, and represents one aspect of an entire theory of value. It is mentioned here in order to take into account a legitimately subjective area involved in value, and also to suggest its limitations and possible dangers. Perhaps the greatest danger of a subjective approach to human value is that such values may come to be regarded as merely subjective, the "merely" being understood as involving some break in the continuity of human experience. But all experience is continuous (at any rate, that is the basic assumption of this whole book). Which means simply that human beliefs, the most dangerous, as well as the more obvious sensory facts of the human scene, are all to be accounted for, with less or greater success, by certain concrete and determinable causal conditions. They are all subject to varying degrees of verifiability. This does not mean that values and facts are the same thing, or objective and subjective. The degrees of verifiability may vary greatly. Moreover, the expectation of verifiability may also differ — that is, values often stand for judgments which are supposed to pass for verified, when actually nobody expects them to be verified at all.

Degrees of Verifiability

How is anything verified? By hypothesis plus prediction, the technique of all reflective thinking and scientific method. Such a procedure does not distinguish *en bloc* the area of fact from that of value. That is to say, facts as such are not as an entire group more verifiable than values. On the contrary, some values are more capable of being verified than some facts, and within each of

the two fields there is a hierarchy of verification. The intention here, however, is not to deny that in terms both of the degree of verifiability and of the gross number of candidates presenting themselves for verification, facts have a heavy advantage; it is to deny the assumption that in a wholesale way facts are objective because they can be verified whereas values are subjective because they cannot be.

Examples for these contentions should not be difficult to discover. The denial that facts are automatically verifiable (and therefore objective) or that there are no degrees of verifiability among them seems an obvious one, even if we accept no more than the common sense, seeing-is-believing criterion of factual. That "a hot stove will burn" and that "the sun is hotter than the moon" are both good commonplace statements of fact; yet are they equally verifiable, or verifiable by similar operations? Add to them "heat is a form of molecular motion." This is a good scientific "fact," even if common sense may regard it as a theory (the gap between theories and facts is one that just won't remain open). "Water is wet" and "wet feet give you a cold" would be another pair of verifiable variants. Examples like them could go on and on: "Men are larger than women — Men are more emotionally stable than women." "Gold is a precious metal of yellow color, very heavy, ductile, and malleable — Gold is one of the chemical elements, with a specific gravity of 19.3 and an atomic weight of 197.2." "Man is a mammal with the power of articulate speech — All men are mortal."

There is nothing profound or esoteric in such illustrations. They would simply seem to indicate that among themselves facts require differential treatment. They inhabit different levels, are served by different language,[3] and vary enormously in their powers of con-

[3] There is an added difficulty of word meanings here. For instance, to say that "red is a hotter color than green" would introduce another dimension of fact-meaning. However, the differences among facts, or among values, are not *merely* those of words, as some semanticists contend.

vincing us. But they are all established by a similar general process, that of predicting what consequences will follow the appearance of any object or event. "If you touch the supposed hot stove, certain experiences will result." "If you perform certain operations to measure radiant energy, the rays from the sun will agitate your dial more than those from the moon." "If you measure men against women, there will be these or those pointer readings." And so on. The over-all procedure is the only one that science knows, but the several operations differ and therefore the verifiabilities differ.

This variation is even more evident in the realm of value. "Murder is bad" and "all wars are wrong" are judgments with quite different compulsions. Human history has made a sharp distinction in the acceptability of propositions about value (as it has about fact), and the spread between them has been an amazingly extended one. "Music is a good experience — Only classical music is good music." "Scientific method alone is true — Revealed religion alone is true." "Only man is vile — Man is the image of God." "Democracy is the only decent form of government — Democracy is decadent, ineffectual, and outmoded." But if these contrasting contentions are to be subject to any kind of proof — and what can they mean if they are not? — there is, again, only one direction for it to move: (1) what are the alleged results that spring from these assertions; and (2) can those results be detected? [4]

"But values cannot be verified at all! Their verification is in no way comparable to factual verification." This rejection of the present thesis would appear, probably, at the present point in the argument. The rejection can be detoured momentarily by returning to the theme of this particular section on degrees of verifiability

[4] Ray Lepley, *Verifiability of Value* (New York, Columbia University Press, 1944) presents an excellent and extended treatment of material covered in this section.

and by repeating that some values are more verifiable (and verified) than some facts. Compare, for example, the propositions "men ought to be healthy" and "the moon is 238,857 miles from the earth." One is frankly a moral, even a sentimental, exhortation, perhaps vague and insufficiently clear in meaning; the other is prosaic, solid, and apparently quite sharply presented. Yet, disregarding completely the significance of the two statements, is the first unverified or unverifiable in comparison with the second? They both have meaning only in terms of one basic procedure; that is, considering them as excellent hypotheses, what steps are to be taken to see if they work? The steps are of course very unlike. The first involves human interests and goals, and uses the instruments of physiology, medicine, psychology as well as the funded knowledge of common sense and, indeed, the whole history of the race. The second employs a totally different set of operations, those dealing with trigonometry, measurement, and direct astronomical observation. But this distinction in techniques is not the sign of a distinction in verifiability.

The difficulty here is precisely to overcome the prejudice that the only instruments worthy of scientific acclaim are those of the physics laboratory. It has been insisted repeatedly in this chapter and elsewhere that each area of human experience is equally real, and that it requires its own set of verification procedures; the only unreal (that is, incapable of objective or scientific treatment) experiences would be those from which no predictabilities grow. "Men ought to be healthy" does have both meaning and verifiability because certain consequences are implied by it, and they are subject to testing. The statement breaks down first into a factual proposition about the definition of health. The assumption is that health can be rigorously defined by acceptable standards of physiology and psychology. They are clear, well-known, and can be discovered in any standard treatise, not to mention the funded knowledge of human common sense. But what about the "ought"? Is that a

mere exclamation, the expression of a wish or feeling, something like a pat on the back or a frown? Some philosophers would so insist. Values are interjectional and hortatory; they have no objective referent.

But according to the present interpretation, "ought" states a condition, for example, health, that leads to determinable consequences. "Men ought to be healthy" means therefore: if men achieve the condition of health, then they will be able to perform certain activities with efficiency, assurance, zest, energy, and cheerfulness. What activities? This is where Socrates makes his famous and impudent point that whereas physicians can make us healthy, only philosophers know whether it is any good to be healthy. There is nothing oblique about this. Ethics is elevated above medicine (or anything else) and philosophy alone is to be the judge of the activities that follow, say, the state of health. The soundness of that claim does not have to concern us here, because in no way does it invalidate the present contention that the meaning and verifiability of a proposition like "men ought to be healthy" rest upon the same procedural basis that any other proposition does. That certain activities will be performed in certain ways if a man is healthy is what requires verification — and is what has received verification.

It is time that a critic be allowed to enter an objection, because the point of view presented here is admittedly controversial, if not startling. For all this business about verification is merely descriptive, it will be said. It is a counting of noses, and is no more than a statement of the prevailing opinion, say, that health has been widely regarded as something which men ought to seek. Values cannot be established simply by showing that they have been preferred. This confuses the whole issue.

Back of an objection like this is an entire cluster of assumptions, most of them never made explicit. One of them is clearly to the effect that something other than human preference is involved in

the determining of human value. Values are not "merely" descriptive; hence they must be — what, for example? The critics are usually coy in suggesting what the non-descriptive elements of evaluation may be. Do they mean that values are discontinuous with human experience? Or that values are valuable even when they elicit no response? At the very best, this would be a Pickwickian kind of value. At worst, it would turn into some kind of moral absolute foisted upon men for their own good. Our own definition of value has been given some pages back — "man's long-time preferences, preferences in the general area encompassing his basic attitudes of life, his deep-rooted tastes and interests, his objects of respect and reverence." This may be a poor definition for some persons, but a definition that does not take into account the factor of human preference would seem to be arbitrary and irrelevant.[5]

Another assumption is one that has already been recognized in this discussion; that is, that the concept of verification is not applicable to values. When the descriptive element in values is deprecated, the possibility of verification is also put aside, for verification is a matter of description. It is a matter, once more, of procedures and predictions. The premise that values are fundamentally unverifiable is so basic that it is perhaps not arguable. If it is believed that values are cut off from the rest of human experience, that there is a deep schism between science and morals, that, as Bertrand Russell holds, questions of ethics are questions of emotion plus power, not of intelligence — then it is clearly preposterous to attempt verification. To detect such an assumption is about all that can be expected; anything else — for example, a pro-

[5] The objection that the present approach to values establishes as a criterion for value "a kind of massive Chinese conservatism," and that it erects nose-counting into the supreme moral requirement (a peculiar objection, when you come to think of it), will be discussed later in a section dealing with "the bases upon which choice of values can be made," especially pp. 240 ff.

posal to disverify it by pointing to the consequences it sets into operation — could be, by the very nature of the assumption, no more than circular logic. The case might be otherwise if the assumption were to the effect that "verification is not entirely foreign to the area of values, but it must employ a standard quite different from that of human preferences." It is this variation of the assumption which will be considered in a subsequent chapter when the important question is raised, Can we choose between values?

In the present discussion of the verifiability of value, there is no wish here to carry the exposition to presumptuous limits by trying to compare, for example, the Four Freedoms with the Three Laws of Motion! Yet there is equally no disposition to question the verifiability of value judgments like those posed by the Freedoms. That men ought to be free from fear is a statement which has psychological and sociological implications susceptible to as rigorous demonstration as hosts of factual commonplaces. Even allegedly baffling propositions like "men ought to be good" or "men ought to be happy" lose their moralistic flavor when their terms are defined so as to make implications and (therefore) verifications possible. Spinoza's aloof and Godlike definition of good is precisely in point: "good . . . is a means by which we may approach nearer and nearer to the model of human nature we set before us." Is that "model of human nature we set before us" itself verifiable? That is another proposition requiring another set of operations, but if the model has any meaning, certain consequences will be involved with it. The "good" is defined, determined, and ultimately verified or disverified by the effects to which it is ancillary.

Similarly, a definition of happiness in familiar psychological terms of, for instance, absence of frustration, awareness of purpose, sense of accomplishment, and the like, will point to results in human conduct which should be expected to validate or invalidate

even the revolutionary exhortation that all men have a natural right to the pursuit of happiness. Such a program of meaningful definition is part of the processes used to verify factual propositions. Take the fact that "matter is ultimately reducible to particles like electrons, protons, and such, which are themselves patterns of wave-energy." The crucial point is, what is going to be an acceptable definition of matter. The verifying physical operations may be clear enough, but just what is it that they are verifying? Happiness is no less verifiable once it has been defined, nor does its definition have to remain secluded in misty clouds above: it can rely as heavily upon the findings of psychology, medicine, and sociology (without omitting the fine arts) as matter rests upon the formulations of physics and chemistry.

These illustrations, to conclude, are not expected to prove anything. But they should help to break down the common prejudice that values and facts exist in completely different dimensions because the latter are and the former are not, verifiable. There are degrees of establishability within each area and there is an overlapping between the two areas. The differences — and they are real ones — that separate facts from values are differences not of kind or essence but of degree. In any case, the differences are not such as to make values lie forever beyond the pale of "scientific and objective."

VALUES AND SCIENTIFIC METHOD

It still must be confessed that to declare values subject to scientific treatment has a very unfamiliar ring. It will be insisted that the experiences of right and wrong, beautiful and ugly, can never be approached with the external neutrality in which we approach the brute facts of trees and dirt and cabbages: ethical neutrality would demand the rare and majestic calm of a Spinoza. Perhaps the reason for this unfamiliarity and this insistence is that many persons have come to regard science and scientific as something quite

different from what they are. They have come to be regarded as absolute, irrevocable, neutral, and objective in the sense of standing entirely outside the arena of human events. In the advertising pages of the magazines, Science becomes a god to be worshipped and a theology to be learned. What it does legitimately stand for was suggested at the beginning of this chapter. It is a method of inquiry and intelligent control, the method being above all a self-corrective one. It is dominated by characteristics like tentativeness — or the hypothetical attitude; operationalism — or the use of procedures and instruments that are constantly adjusted and corrected; and criticism — the making of significant decisions. When science turns into these recognizable attitudes of approach should it still be divorced from human values?

Indeed, scientific method itself is one of the greatest of human values, a rather young and fresh one at that. It is a youngster of but three or four centuries, young as the middle class and the New World and the national states of Europe. The revolution that propelled it into life saw also the birth of the great trading cities and the rise of new theories of business and government. Its method is throughout the product of historical processes, the end-result of social decisions, some of them involving bare economic choices, others resting upon some of the most precious and intimate of human rationalizations; but all of them thoroughly infected with valuation. Natural science had to win its privileged position. It has been chosen as something important. Man has decided, at least in certain areas, to solve his problems through the use of intelligent control, free inquiry, and self-correcting instruments. The contention here is that eventually *all problems must be so handled.* No human situation lies automatically beyond the control of intelligence and reflective inquiry.

Tentativeness

In such a claim there is nothing presumptuous nor fantastic pro-

vided that the meaning of "scientific and objective" has been remembered, the meaning that centers around an attitude of mind and a temper of approach. Dominating such an attitude is the hypothetical or tentative spirit. That attitude regards the natural laws and even the "facts" of physical science itself as theories with a very high degree of probability; they are neither absolute nor unamendable; they are not dogmas. If then men are to think reflectively about values, about human choices and interests, it would appear that the first requirement for such thinking is to regard values, however precious and long-standing, as significant hypotheses that are to be handled as science handles its own largest generalizations and assumptions.

But is not this the rule anyway? The answer is so tragically in the negative that it almost points the way down which man's possible ruin may be waiting. For values have traditionally been something to fight for rather than understand. The "retreat from reason" that has so characteristically dominated the last decades and that prepared the ground for totalitarian solutions of moral and social problems has been but one more example of an age-old reliance on force, reiteration, and blood-letting to decide the validity of man's most intimate beliefs. The religious persecutions and moral harassments of an earlier day were fitting ancestors of the economic and political and racial terrorizations of ours. It is no oversimplification of this ancient and modern history of man's inhumanity to man to say that it is in great measure the product of a prescientific absolutism. Instead of regarding values as hypotheses, as amendable statements of the conditions and requirements under which man alone can live, we have, with a criminal persistence, put them beyond the realm of science and of thinking because we have made them eternal and unconditional. Human values have been considered too precious to be subject to any meddling.

There is a frightening paradox here, for it may be argued that man's feverish claims for absoluteness in value spring from his

notorious inferiority complex, his plaintive demand for nonhuman compensations. Frightened and bewildered by a world that so exceeded his grasp, the human animal found it necessary to turn to animistic fable and myth (and later to metaphysics, if Dewey's analysis is correct) to escape a suffocating feeling of helplessness. The animal did not always fall in the hunt, the thunder could not be controlled, the rains came and so did drought, and famine and disease and death. So there must be a happy hunting-ground where no arrow missed its mark and where thunder and lightning never terrified, a pleasant land with no floods and no dryness and no death. These were not simply dreams and wishes, because that would mean that man was just fooling himself: instead they became the truest kind of truth, the backbone of religion and worship and the moral life. They had to be believed in so that man would not be afraid of the universe. They would become part of the unchanging nature of things. Man's quest for moral (and philosophical) certainty may well be a recompense for the precarious character of his moral accomplishments.

Equally paradoxical is the inverse ratio in matters of valuation between man's knowledge and his convictions. The most exact of the physical sciences will make no claim without allowing for a probable error, a margin where unavoidable mistakes can be discounted. But who ever heard of a declaration in economics or politics or morals being put forward with an admission of probable error? This is of course an exaggeration; yet the almost fatal tragedy is that men are most passionately certain when, in terms of scientific knowledge, they are most ignorant. They certainly have not learned the lesson of tentativeness.

Does not this hypothetical attitude mean that action is thereby inhibited? We need only refer to the earlier discussion of this point. It is a rather vicious travesty to insist that, in value problems or anywhere else, beliefs must be one hundred per cent assured before anything can happen. Such an idea is of a piece with the totalitarian

contention that only one side of a question need be presented, that action cannot follow if the official belief is complicated by unofficial ones. This is the precise opposite of the scientific spirit. The modesty that comes with knowledge makes action intelligent; it does not stop it. "To teach how to live without certainty, and yet without being paralyzed by hesitation, is perhaps the chief thing that philosophy, in our age, can still do for those who study it." [6]

Tentativeness and Ultimate Values

Does not the hypothetical attitude mean that values are merely whims or personal opinions, therefore relative and arbitrary? This is one of the most difficult and mischievous of the misconceptions about values-as-hypotheses. It is even tied up with the present-day obscurantism that blames what it calls "pragmatism and positivism" for the supposed ethical collapse of modern times. To consider hypotheses in the light of "merely" or "nothing but" is a dangerous misreading of the entire scientific enterprise. It forgets, for example, that the hypothetical attitude is one that insists upon degrees of verifiability. The range between the newest and most untried hunch of an experimenter and, say, Boyle's law is an amazing one: the first may be merely an as-yet-unverified guess, whereas the second possesses a status that would have all the solemnity required by anyone — except that it still is subject to whatever possible changes may be demanded by the assumptions and operations of an expanding physics. But the guess can become solemn, too, should it lead to demonstrable predictions.

In exactly the same way there are hosts of values which have impressive histories behind them, and there are others which are unverifiable or as yet unverified. That health, happiness, security, freedom from fear and from being pushed around, love rather than

[6] Bertrand Russell in Introduction to *History of Western Philosophy* (New York, Simon and Schuster, 1945), p. xiv.

hate, and so many more of the traditional battery of human values are warranted generalizations established by all but universal human experience can in no way be challenged. These are among the fundamental requirements for human living, just as there are requirements in naval engineering for building a ship or in medicine for keeping a man healthy. They are conditions that must be fulfilled, and that have been fulfilled — at any rate in those times when man has been more than usually lucky. There is little of whim or improvisation in values like these.

But however august, they still are hypothetical conditions that function in a given context, in this case, that of human culture; therefore they must be continuous with that culture. Such values are in a literal sense "intrinsic." That is, they are within and part of a culture. (This does not signify that any particular culture is necessarily to be taken for granted. A revolution can be as culturally intrinsic as the most stubborn conservatism.) The alleged intrinsic values that ethical theorists have talked about are not infrequently extrinsic: they are imposed from without, often tending to become rigid to the degree to which they are resisted. The ascetic values of certain philosophies and religions, or the genteel tradition in education, might be cases in point. Intrinsic or not, values, no less than the most formidable law of natural science, must be subject to revision, scrutiny, and criticism; they must be adjustable to changes in the development and accomplishments of their human background as are the theories of science. Therefore, to consider values as hypotheses means neither to patronize nor to worship. Tentativeness does not call for the word "merely"; on the other hand, it is a prophylactic against concepts like absolute, final, or ultimate. If ultimate values mean no more than "ends-in-view" or "end-of-a-process," the term is acceptable; but the ordinary connotation is distinctly different, involving ends and purposes which are over and above any particular context and thus divorced from technological control. Examples of such ultimate values might be:

The classless society of the orthodox Marxist, which dialectically is outside any particular class struggle and which is an end that justifies any means, however remote it may be from a classless ethics. Or the individual salvation of an immortal Christian soul, also an end which in the course of history has justified many un-Christian means. Or Plato's heaven of abstract forms, brooding over and beyond the human senses — a kind of unrealizable heaven that has characterized so many of the ethical ideals in the history of philosophy. Or perpetual peace to be achieved through continuous war.

It is this sort of ultimate value that is disputed by the scientific attitude of tentativeness and hypothesis. Values do not have to be final, in the sense of unalterable and transcendental, to be of service. Indeed, the more aloof they are, the more unusable. The postulates of science are eminently usable because they are in close alliance with specific operations and with the inevitable restatement and redefinition that follow. Values do not lose their efficacy when they lose the adjectives "everlasting" and "immutable." To regard human choices as historical and workable (or unworkable) theories that make verifiable (or unverifiable) predictions about human beings living in some particular culture — this must be the first and most prominent qualification in relating values to scientific method.

Operationalism and Criticism

At this point it may be helpful to make clear, if it is not so already, that we are not assuming that values are or have been treated scientifically to any appreciable extent. The argument here is simply that they can be so treated and must be, at least if man is ever going to end his troubles. That there are enormous practical difficulties to be overcome is of course transparently obvious; but those obstacles are not theoretical obstacles. That is, there is nothing in the intrinsic nature of human value that condemns it, in some *a priori* fashion, to remain forever the plaything

of wishful thinking and pious exhortation. It is not because men are men and not amoebas or rock formations that their actions and beliefs must always be non-scientific. Such a delusion is magnified, deliberately or unconsciously, every time we are told that "you can't put men into test-tubes."

All this, however, is not to deny that the operational aspect of scientific thinking has as yet little to show in this area of value. Particularly lacking are the operations, such as those in the physical or life sciences, which tie together entire fields of activity. There are, of course, operations that apply to values, specific operations of social psychology, economics, and politics, some of which will be suggested in later chapters; there is without doubt a growing interest in what may be called "social engineering." But it must be emphasized again that a proposition is meaningless for science unless in some way it can be implemented. It must be actionable. This applies to economics or ethics as well as to chemistry. Once again, the precise operations need have little if anything in common. That is not the issue. The issue is one, above all, of making specific the implications and the requirements of any value-hypothesis, including among the inferences the predictable consequences that may be expected to follow, and among the requirements the appropriate techniques and instruments to be employed. This certainly sounds simple enough. It does not matter if the operations proposed are as unlike those of the laboratory as winning a political election, or clearing a slum, or carrying on a new experiment in education, or changing the eating or entertainment habits of a nation. They may be incredibly long-range or even appear to be desperate fumbling: yet some action must be foreshadowed, some specific, concrete difference must be made somewhere if a value-hypothesis is to advance the first step toward verification. This is the very minimum that can be demanded. Without any movement toward the initiating of actual operations, values will be condemned to remain no more than hortatory wishes.

valuation to require little additional elaboration. As was argued earlier, to be critical means to make choices, to evaluate. But from the other side, pressure needs to be exerted continuously on the idea that values, like natural laws, are not to be taken for granted. There is nothing that is above critical examination. Obviously, this is not meant to be a subversive contention. To be examined does not mean to be rejected. A value, say, democracy or happiness or economic security, must be weak indeed if it cannot survive close scrutiny. Critical examination may actually strengthen the object examined. But, strengthened or weakened, a moral claim becomes at best smug, and at worst an intolerant and intolerable dogma, if it is thought to be in some way privileged or above criticism. Science and philosophy would unite in repudiating any such privilege claimed for any human experience whatsoever.

These three aspects — tentativeness, operationalism, and criticism — are basic to the attitude of science (or of philosophy). There is no reason why that spirit needs to be absent from the realm of human values.

The Alternatives

But however difficult — if not impudent — may be the attempt to adjust the phenomenon of human value to scientific method, what are the alternatives? What or who is to have jurisdiction over value? What is the substitute for reflective thinking here? If intelligent inquiry is not to be used, must not rampant emotion be given a free field and so create a tragic gap between ideas and wishing, the gap that yearns to be filled, if in no other way than by totalitarian cement? Professor C. E. Ayres has so bravely presented the alternatives that his words may be quoted at some length as a conclusion.

> The unity of science is more than an academic formula. What this phrase stands for is nothing less than one of the two possible outcomes of the crisis through which civilization is now passing. Whether future civilization is to be guided by science or by

something else will be determined by the outcome of this crisis. No compromise is possible, since there is no point at which a stable boundary can be set up between science and non-science —call it metaphysics or what you will. Either metaphysics will predominate over science, reducing science to the rôle of handmaiden in the course of a general recession from the "materialistic" culture of the present day; or science must establish its ascendancy over the thought and action of the community at every point, leaving nothing whatever to "metaphysics" . . .

The fact is that science and civilization are approaching the end of a period of compromise. During about three centuries of uneasy armistice, science and metaphysics have agreed on a division of the universe according to which science was to have jurisdiction over the "outer" world of stars and planets and elements and chromosomes while metaphysics retained its authority over the "inner" world of the human "spirit." It is, of course, science which has broken the armistice, claiming first the species, then the "mind," and at last even the phenomenon of value, thereby provoking a counter-offensive in which metaphysics also has extended its claims from "spirit" to "race" and "blood" in overt defiance of biology and ethnology. But the conflict is inevitable and there is no possibility of drawing back. Either science must advance and eliminate metaphysics altogether, or none of its past achievements is safe from eventual re-conquest. Either values are natural phenomena and the social sciences are continuous in both subject-matter and methodology with all science, or all science is but the futile floundering of puny mortals temporarily resident in this vale of tears. It is this issue which the problem of value raises. Is value a natural or a metaphysical phenomenon? [7]

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Chapter Seven

TOWARD AN OBJECTIVE ETHICS [1]

SEVERAL ITEMS mentioned in the preceding chapter need to be carried over to this and to subsequent chapters. For instance, there is the matter of a meaning for objective value (and, by implication, for an objective ethics) that will avoid connotations such as "absolute" and "universal." There is the companion suggestion that values (and ethics) need to be handled naturalistically and scientifically. Add to these agenda of unfinished business the recurring theme that philosophy must be vitally concerned with the significance of what have been called "social problems." In trying to elaborate these items, one major assumption will be relied upon heavily. It is that *philosophy cannot be permitted to escape from its moral responsibilities and that ethics cannot be allowed to cut itself off from the social background which alone can make it objective.*

A MEANING OF OBJECTIVE

Something must first be said about the word objective as it is going to be used here. There are many meanings of the word, some of which have been indicated in the previous chapter. The emphasis of the present argument will be centered upon a social interpretation of objective, at least of objective as it applies to the field of ethics. It will have to be confessed, once more, that the present

[1] The title and much of the argument of this chapter is taken from a monograph by the author (Antioch Press, 1938).

interpretation of objective is part of a whole thesis, one that is not necessarily acceptable in all philosophic circles.

In the context that follows, "social" refers to several quite obvious things. One reference is simply to that which is more than, which goes beyond, individual experience. Nothing occult is intended by this transcending of individual experience. What is indicated is merely the clear-cut quantitative superiority of the group over the individual. Judgments of human conduct concern themselves with something more extensive than a single person. That something more is the thoughts and actions of others. Were there a genuine Robinson Crusoe (a genuine Crusoe, unlike the fictional one, would have to have been born on his island, and born with nobody else around — a pretty hard job for a mammal), his ethics would be a strange, if not an altogether meaningless, jumble of ingrown introversions. His practices and problems would be so individualized that the concept ethical would be scarcely appropriate. He would be neither moral nor immoral, but amoral. If, then, ethical seems to require the idea of social "otherness," it also seems to require, to that extent at any rate, the idea of objective, in the sense of contrary to individual or subjective.

That judgments of human conduct are social in this elementary sense of extending beyond the individual does not appear to be arguable. The very meaning of value, of moral, of judgment, depends upon a connection with some evaluating agency, an agency that is a function of something outside the individual person — the family, the church, the state and its laws, the more informal social group and its mores. Even conscience, unless one is mystical about it, can be regarded as a funded social experience. Indeed,

> There is a peculiar inconsistency in the current idea that morals *ought* to be social. The introduction of the moral "ought" into the idea contains an implicit assertion that morals depend upon something apart from social relations. Morals *are* social. The question of ought, of should be, is a question of better and

> worse *in* social affairs. . . . Morals is as much a matter of interaction of a person with his social environment as walking is an interaction of legs with a physical environment.[2]

Judgments involving human conduct also extend beyond the individual in another elementary way — in time as well as in space. That is to say, in addition to surrounding the individual and circumscribing him in terms of sheer numbers, the ethico-social dimension stretches behind the individual, back into the past. The commonplaces about the superiority of the human animal over other animals revolve around his power to retain the heritage of past experiences by means of language and symbolic thought. The meaning of education itself depends upon such a preservation of the past, upon the fact that each individual and generation does not have to start from scratch. It is in this obvious sense that social can also be applied to ethics, and to objective. When men are confronted with ethical problems and situations, they have a history to advise them; they are not innocents operating in a vacuum. They can make use of a massive past that antedates any individual experience, a past and a tradition that is therefore more than (merely) subjective. It can be a decalogue, the sayings of Confucius, the whole culture that has been inherited almost unconsciously, the precepts of the Sunday school or of the gang — in any

[2] John Dewey in *Human Nature and Conduct* (New York, Henry Holt, 1922), pp. 319-18. The use in this quotation of "morals" with both a singular and plural verb should not be confusing: grammar ordinarily permits either one. A more serious confusion in the general employment of "ethics" or "morals" — although Dewey's usage seems clear enough — is the failure to indicate whether the word refers to conduct and practice, or to theory and problems about human conduct. The former is more a matter of sociology and anthropology, the latter of philosophy — although, as will be insisted in this chapter and elsewhere, these two cannot be cut off from each other. When the word "ethics" or "morals" is used by itself in these pages, the reference is that of theory or problems; that is, ethics as one of the grand divisions of philosophy. When conduct or practice is intended, the specific words will be noted.

case the tradition is prior to any particular individual and is, in this sense, objective. In time as in space, social seems to signify objective. But these are only introductory items.

Social as Public and Experimental

If we are to consider fully the meanings and implications of an objective ethics — of a social ethics — much more is required than this elementary quantitative or space-time orientation. There is the ambit of meaning itself. The vagueness of many ethical terms, for example, good, happiness, altruism, final end, virtue, and so on, may partially be ascribed to the attempt to communicate incommunicables. Words would surely need a magic to transfer the emotional and private experiences connoted by symbols such as "happiness" and "goodness" to a logical and public realm. This is the same point noticed earlier in discussing semantics — man's double use of language, the emotive or esthetic or intensional handling of words on the one hand, and the directive or actionable or extensional use, on the other. The former is essentially the language of poetry and imagery, of vivid pleasure-giving and emotion-provoking words; it is the attempt to express feelings, hardly to regard them as bits of public knowledge. The latter — the extensional — is the language of communication: it gives meaningful knowledge that may function as the subject of discourse and direction. There must be no absurd attempt to judge comparatively between these two; they are different, and that is all. The only point is not to mistake one for the other. When someone tells you a book smells, you don't have to use your nose.

Is not this distinction between the emotive and the directional employment of language also the distinction between private and public, between subjective and objective? Public and objective, as contrasted with private and subjective, point to a social dimension, in meaning as in anything else. The social dimension of public meaning very much resembles the world of scientific method that

has already been sketched, a world in which concepts and propositions are above all experimental: they mean what they do. Meaning here depends upon certain procedures and operations, like those of pointer readings, Brownian movements, auscultation, publishing of price indexes, even the regulation of traffic by red and green lights. These procedures and operations are public and repeatable. Without them, meaning reverts to a different universe of discourse.

There is nothing, to repeat, inferior about that other universe of discourse, the one of affective, emotive, and intensionalized behavior. Nevertheless, it seems clear that much of the suspicion and patronizing dismissal which, for example, ethical propositions have so often provoked, may be traced to their distance from relevant and operative significance, to wit, "Christianity is more moral than Buddhism." "Anti-Christ must come so that there can be a transvaluation of all values." "Epicureanism is immoral." "Man's highest good is rejection of the body in pursuit of the Absolute Good." The meaning of ethical concepts does not demand the same operations as those of the natural sciences. That has been made abundantly clear. Different areas of experience employ different techniques. But the very least that can be expected of ethics (and of the social sciences) is a sensitivity to the essence of the experimental attitude — the conviction that method is as important as conclusion. Concentration upon technique as well as upon goals was the magic that transformed out of a supernatural theology and philosophy what we now know as physical science. It would be but prosy to cite the well-known historical metamorphoses of astrology into astronomy, of alchemy into chemistry, of natural philosophy into physics and mechanics, all of which were given life by the touch of experimentalism. Why can we not presume that a similar change in attitude might not prove equally valuable in ethics?

Here, it is true, experimental must have a different connotation. Above all it must mean that ends are not alone of importance or

even first in importance; means and methods must demand at least equal attention. To quote familiar words: "We cannot seek or attain health, wealth, learning, justice, or kindness in general. Action is always specific, concrete, individualized, unique . . . The need in morals is for specific methods of inquiry and contrivance: Methods of inquiry to locate difficulties and evils; methods of contrivance to form plans to be used as working hypotheses in dealing with them." [3] "Experimental" in the field of morals means that we are confronted with live issues, that vital choices still have to be made, that principles are always in a formative state, that opportunities must be given for trying different measures and comparing the results. It means that we cannot allow ourselves to be blocked by hearing that "human nature can never change," or that "men are innately good — or bad," or even, "all social change must be revolutionary: the class struggle must be encouraged." These are assertions, not programs. That they could become programs by being treated experimentally is another matter. Experimental means that there must be free inquiry and the observation of particular situations, which does not imply, of course, that generalized material from past experience is to be ignored. But experience, useful and objective as it is, cannot be permitted to turn into fixed, unyielding moral standards, metaphysical and absolute in character. In a word, then, experimental signifies, in the present context, that ethical programs must be looked upon as hypotheses.

The Functional Meaning of Social

These experiments or hypotheses or methods, in what dimension can they operate except a social one? This will constitute another extension of the term social, since we are still trying to connect, in terms of meaning, social with objective and with ethical. The ex-

[3] John Dewey, *Reconstruction in Philosophy* (New York, Henry Holt, 1920), pp. 166-67, 170. See also Dewey and Tufts, *Ethics* (New York, Henry Holt, 1932), rev. ed., p. 365.

tension of meaning in this case is one that is qualitative rather than quantitative. That is to say, social (and objective) goes beyond individual (and subjective) not simply in the sense of expansion in space and time, but in what may be called a functional context.

What is intended by this is no more than a sociological commonplace, that is, that the concept of individuality implies the concept of society. There are no completely asocial human animals. Anthropology has yet to discover any "natural" man, natural in the sentimental sense of existing before or outside of any type of social group. Human personality is a function of a social situation, and personality certainly includes the area of moral judgment.

This may sound rather doctrinaire, and it would be unpleasantly so if the intention were to elevate some abstraction called Society over another abstraction called the Individual. Indeed, the field of ethics has been traditionally split by a more or less dogmatic clash between some such bloodless categories as these; for there have been two contrasting interpretations of the way in which ethical concepts can most effectively influence human conduct. One depends upon an appeal directly to the individual. It assumes that unless man is changed first from within nothing can be effected. His heart must be cleansed, his inner motives and will must dominate; institutional change will then follow as a matter of course. The second point of view minimizes the individual and magnifies the conditioning powers of his social environment. Institutional change demands no inner compulsives. Man will automatically adapt his ethics to a new social order just as the chameleon adjusts to shifting colors. In the words of Arthur Koestler, there is the perennial clash between the Yogi and the Commissar, between Change-from-Within and Change-from-Without.

These alternatives are put as strongly as possible, and as so put each one is clearly inadequate. This is true even of the second, which represents, although in an exaggerated form, the alternative that would be preferred in these pages. But the over-statement of

that position presents at least two major weaknesses. One is that it entirely underestimates the psychological subtleties and intricacies of its "individual," making it no more than a monotonous register of impersonal social manipulation. The other, much more serious, is that it provides no method for deliberately changing the social environment. Revolutions make men, but men also make revolutions. A strictly one-way conditioning process, from society to individual, seems conspicuously futile.

Just as futile is the first of the traditional interpretations, that of regarding the moral sphere as alone one of internal motivation and subjective desire, of good will and dutiful conscience; for it implies that the philosopher cannot do very much about conduct. All he might effect would be through the difficult channel of preaching and exhortation: the offices of a priest of some sort would be indicated. No strategy is provided.

But the alternatives have been presented too stringently. Actually, as has been often pointed out, all conduct is the result of interaction between elements of human nature and the environment, natural and social. This is not simply a middle-of-the-road position. It has implications that tend to reduce the traditional split in ethical theory. Among other things, interactionism suggests that social and individual, as customarily used, may be merely abstractions having little operative significance. This would certainly be the case if the terms were thought to have a fixed meaning and an independent status, so that society would be regarded as an entity in itself, having its own value as over against that of the individual, and individuality would be understood to exist in splendid isolation, unmoved by what goes on without. Apparently those who take seriously the Yogi-Commissar disjunction also take seriously the notion of The Individual *or* Society.

Having said this, one must also go on to say that a qualification like interactionism should not obscure the fundamental pattern that is being traced here. The present section opened with the con-

tention that experimentalism in ethics must be correlated with the social factor, and continued with an attempt to indicate a functional relationship between individual and social. Even though interactionism is the key word in such a relation, the strategic base of operations as well as the tactics involved must have a social rather than an individual orientation. Interactionism itself would demand that the social environment be clearly credited with providing the conditions under which individuals live. That environment furnishes opportunities, obligations, new claims and ideas: it affords the backdrop for moral character, and will allow few Robinson Crusoes in ethics. An assumption that morals must include within its scope an interest in the social setting of individual action is at the same time a demand that morals turn its attention to programs, that the intelligent adjustment between individual and social must be one of economic and political engineering rather than of individual salvation.

A Shift to Social Problems

Using "social" as in the preceding paragraph, is clearly to shift the meaning of the word from its simple denotation of "referring to others" to the wider and more popular interpretation in which it suggests something like "social problems." That shift has been deliberate. For although the social nature of the individual has been impressed clearly upon philosophy, the same unambiguous reception has not been always accorded to the social nature of ethics. To use social, therefore, in its political (almost its propaganda) connections may serve to emphasize an aspect of the term that suggests a certain nobility and power and strategy that seem to be lacking in its mere quantitative handling. It may serve also to point out a meaning of social that is indeed portentous.

More specifically, this usage will underline the insistence that philosophy, as it is represented in ethics, cannot refuse to accept the challenge which our social system presents. The problems and the

proferred solutions that have sprung from the misery and frustration inherent in social maladjustment cry out for recognition from moral theory. Here are in truth questions for question-asking philosophy, questions that have been given scant consideration by many of the great figures who have directed its course. Surely, if there is any problem that must stimulate the searcher for an integrated world vision, it is this of remediable human misery. If there is any paradox that must startle the ethical theoretician in his quest for the realization of moral values, it is the starving of human power that takes place in front of the greatest expression of human power. Is not the solving of that paradox a vital task for philosophy? If philosophy lays claim to any characteristic, it is that of catholicity. Clearly, then, within its synthesis must be located not only the vague awareness of social disease, but also a sincere attempt to contribute to the remedy. This is simply the frank, urgent, perhaps unsophisticated demand that the love of wisdom be devoted to the love of man.

To put it bluntly: There is a menacing need for human intelligence to become more acutely sensitive to the fundamental malformations within the social structure, and to the moral consequences that follow. This should not have to be argued with men who have seen two world cataclysms within a generation, punctuated by a revival of barbarism that would have seemed fantastically unbelievable to any European living between the Thirty Years' War and the 1930's; and who have now seen, in atomic power, a force that literally can blast man and his civilization off the face of the earth. Sensitivity to impending social and international catastrophe cannot be delegated to the social scientist alone. Moral theory must provide the vision and understand the consequences, for ethics cannot permit the social sciences to act as its surrogate in the handling of social evil.[4]

[4] No prejudice is implied here if we do not turn directly to material of the existing social sciences. For one thing, the argument at this point

The "musts" and "shoulds" that crop up so much here, and even a kind of petulance, would be gratuitous if ethical theory had always been acutely sensitive to the distortions in human culture. Unfortunately, moral philosophy has often turned its attention away from the very material that might have given relevance and import to its claims. Ethics has talked a great deal about conscience and a moral sense, about virtue and vice, will and desire, categorical imperatives and Absolute Goods. Undoubtedly these topics are significant (in any event, one would have to be endowed with remarkable courage to deny that they are). But how much consideration has ethics vouchsafed to education, law, culture, political structures and economic systems, not to mention poverty and social misery? For modern life, these objective, social phenomena form the great basis of the lives that morally-judged creatures lead. Yet the riddles that have attracted the ethical theorist have been ordinarily only the product of metaphysical workshops; earthy and sordid problems, like those of economic maladjustment, have so frequently been put aside. They are merely instrumental.

Ethics has tried too many times to escape from social evil in much the same way that some religions have, in rationalizing. The problem of evil has been solved by explaining away, denying, or even by justifying evil as a form of good in disguise — as the shadows in the great cosmic landscape, or the discords that go to make up the eternal harmony of things. Nothing more operative than metaphysical dialectic, or stoic resignation, or some other moral opium has too often been the philosophic anodyne for the achieving of ethical painlessness. Ethics has thus been characterized

is directed against a certain social obtuseness of ethics. (There is a possible complementary argument to be directed against the moral obtuseness of certain sections of social science. This will be considered at the beginning of the following chapter.) For another thing, since the present work is concerned chiefly with the field of philosophy, the emphasis will have to remain, at least for the present, on philosophy itself. Later chapters will deal directly with problems of politics, economics, and education.

by a lack of novelty and adventure; it has been, in general, conservative. In the true and universal system each philosopher has constructed, some place must be found for the rightness of existing society: there is a need to idealize the *status quo.* Not infrequently ethics has been the instrument for such rationalizing.

The intention here is not to try to transform philosophy into economics or sociology. It is clearly recognized that problems of the social field must first be translated into moral terms if they are to be of concern to professional philosophy. But that is the all-important initial step, since such a rephrasing will indicate that, in complementary fashion, ethical problems must in turn be translated into the vocabulary of the social and psychological sciences. In other words, the two must function in the rôles of ends and means, the ends relating to the characteristic moral goals and goods, and the means to those methods, largely social in emphasis, through which moral ends may be approached. For example, economic data about income levels, unemployment, and business depression; or political information dealing with tyranny, dictatorship, and class and racial oppressions; or sociological material about delinquency, divorce, disease, and ignorance are not in themselves moral. Yet no one in his right mind could put aside that material as having no moral relevance. The very meaning of most of these social data is bound up with their impact upon the conduct and feelings of people, and thus with their impact upon morals. Conversely, problems and pronouncement about free will or determinism, selfishness or altruism, conscience or depravity, sin or saintliness — they must seem empty and pedantic unless earnest attention is also paid to the way people live. The way they live is the concern of social psychology and sociology, of economics and politics, of law and history and education.

The sensitivity to social problems being asked of philosophy is one that will rely upon the researches of the social sciences, but ethics will add the directive factor of values. It will make judg-

ments. If moral philosophy cannot make itself socially sensitive, or if it refuses to accept any responsibility for our economic and political failures, then it lays itself open to the condemnation that William James quotes from the pages of Morrison I. Swift: "philosophers are dealing in shades, while those who live and feel know truth. And the mind of mankind — not yet the mind of philosophers and of the proprietary class — but of the great mass of silently thinking men and feeling men, is coming to this view."

ENDS AND MEANS

The insistence that ethical theory and social theory must in some way co-operate if moral philosophy is to become completely meaningful is nothing else than the contention, just noted, that ends and means can never function as discontinuous entities, but must always act as a unit. There can be no divorce, as has been customary in moral theory, between ends which are intrinsic, that is, moral, and those which are only instrumental, that is, social. This divorce rests on a dualistic assumption which cannot be accepted. There is no insulation that prevents moral from coming into contact with social.

The matter of ends and means is of such consequence that it deserves some special attention. Despite recent interest in the subject (books by Aldous Huxley, *Ends and Means,* and by Arthur Koestler, *The Yogi and the Commissar,* are illustrative although both of them appear to reach rather unfortunate conclusions), there have been few attempts[5] to grapple with the idea that the scientific revolution and modern technology have all but made incomprehensible the classic Aristotelian dualism between ends and

[5] One of those attempts, applicable chiefly to the field of economics, is the brilliant and trail-blazing book by C. E. Ayres, *The Theory of Economic Progress* (University of North Carolina Press, Chapel Hill, North Carolina, 1944). John Dewey has promised particular treatment of the ends-means question in a future work.

means. In both the *Ethics* and the *Politics,* Aristotle formulated a separation so plausible between ultimate goods and present interests that it became a long-established belief, even an institution. His simple illustrations have become convincingly commonplace and have been kept fresh by being brought up to date. We now say, for instance, that the What and the How are two entirely different things: Scientific method can be used to implement fascism as it can democracy; therefore the important thing is not the means (the How) but the end (the What). Men can be good whether they are rich or poor; therefore economics (method) is inferior to ethics (results). The classless society must be the goal of any progressive movement; therefore any means can be justified by it. (This is what Koestler calls the commissar mentality.)

These examples may seem one-sided, but they would be so only if our purpose were to enter the lists as a champion of the commissar or of Koestler's Yogi — who supposedly believes that subjective controls, not public results, are alone important, that the means justifies the end. A plague on both your houses, can be the only defensible comment. The aim here is something else. It is to challenge altogether the separability of ends and means. To sever the two is about as intelligent as a disjunction between cause and effect. One makes no sense without the other. Consequences, like effects, are what they are because of the steps that have brought them about; and means, like causes, are but blind, dismembered events if they are not part of a serial process. To flit from one to the other is to do nothing less than misread the whole history of ideas, at least since Galileo. To do so divides philosophy from science, and morals from technology, and makes frustrate, therefore, the entire course of modern humanism.

One illustration may possibly help to make this clear. As was mentioned above, a familiar complaint today is that the moral indifference of science can be adapted to any end: atomic bombs can be used by tyrants to dominate the world as well as by demo-

crats to insure peace. Therefore, the end alone is what counts. But it is a vicious caricature to say, for example, that fascists have used legitimate scientific method to further their own ends. Scientific method, as method, as a general way of solving problems, all problems, is completely incompatible with fascism. Because totalitarians use the vocabulary and some of the gadgets of what they please to call science should deceive no one. As method, and nothing else, scientific enterprise demands conditions that can be fulfilled by nothing of the nature of fascism. For the conditions include such things as unrestricted research; free communication of all manner of information — including social and political; unhampered publication of and education in the results of all kinds of experiments; no disqualification of scientific workers because of race, color, or religion; in general, democratic access to the field of science as well as to its social contributions. To speak, therefore, of "fascist science," which is the opposite of all these, is, in any philosophical sense, as coherent as to speak of round squares.

This example from science should suggest that methods and means are in themselves efficacious. They produce actual consequences no matter what may be the profession about ends. The person (or it may be a political party) who is habitually vicious, unkind, dishonest, and untrustworthy in his actions, but who deprecates these as merely means leading to a glorious result is the prince of self-deceivers; for his "end" — even if it be retained in some kind of Pickwickian sincerity — will soon come to resemble his program. One who treats others with consideration, gentleness, honesty, and forbearance, but boasts that he is really using them for selfish, even wicked, reasons, will begin to find himself bewildered by what has happened to his allegedly vicious purposes. *For ends are the consequences, the upshots, the outcomes, of means,* just as character, in the words of John Stuart Mill, is the way we habitually act. To act consistently badly but to have albeit a good character and a heart of gold underneath is, in both meaning and worthiness, pure hokum, plausible only in Hollywood.

What is more, how can ends be honestly discriminated unless they are connected with the machinery for their realization? To believe in Ends-By-Themselves is at the same time to choose some pet end and hold to it obstinately or even ruthlessly, with no possible way to justify or reject it. The believer in the superiority of a Nordic race — and they were not all to be found in Nazi Germany — will oppress, say, Jews and Negroes. His anti-Semitism and Negro-baiting will, of course, be only a means for achieving the "splendid" society of *Herrenvolk* or of White-Native-American-Protestants. Yet how can his honorific goal — so different, to be sure, from quotas and Jim Crow, from pogroms and lynchings — be judged? If it is unaffected by means, then some arbitrary mystic intuition (usually found to be based on the work of a discredited third-rate theorist, or on the fear of competition from non-Nordics) must be the only sanction. This is admittedly an extreme case, but the issue it presents is fundamental. A legitimate choice of end *A* over end *B* can hardly be made unless decisive weight is given to the ways in which *A* is realized or realizable.

The whole problem deserves much more attention than a brief mention like this. It is a problem complicated above all by the historical fact that scientific method, a matter of only four centuries at most, developed in a cultural setting that was already dominated by the idea of intrinsic value. Both philosophy and theology had conspired to give moral and spiritual sanction to ideals as such. That ideals are inseparable from techniques — one of the great lessons science has to teach — has been obscured by the very nature of our culture, with its deep roots in Greek philosophy and in Christian metaphysics. The scientific revolution has yet to make its real impact on modern civilization.

Ethics and Economics

The cleavage between ends and means has been a traditional distinction made by philosophy. The moral order has not only

been divorced from the problems labeled social; very often it has been made superior to such affairs and has been given authority over what was regarded as the less exalted and less abstract business of a crude and impure realm. It was more important and more philosophically elegant to talk abstractedly about right and wrong than about malnutrition, terrorism, unemployment, and frustration; more profound to talk about human depravity than about the reasons for it. But that kind of affected superiority is a fruitless one. Ethical visions and social schemes must function together; moral hopes and utopian prophesies must be related to things fundamentally tangible. "Ultimate" may seem to be dominantly ethical, whereas immediate attention may be with social matters; but between ultimate and immediate there can be no hiatus. Any separation of a moral order from concerns such as those of economics, which treat of human wants and human activity, must be subject to all the dialectical difficulties which arise from discontinuity between ends and means. It is subject to the difficulties of separating foundation from superstructure.

These may all be truisms, yet they seem significant none the less. They are significant because, as with all truisms, they are accepted — but nothing is done about it. For instance, it is clear that the most disconcerting spectacle which confronts the searcher for the achievement of moral values is the mad scramble of man to satisfy his material wants. The scramble seems a brutish, unesthetic thing to the dreamer of perfect cities; he is amazed at the exaggerated stressing of capacities for ruthless self-advancement, so remote from the ideal standards of human conduct. What has been the usual result? The dreamer of perfect cities becomes aristocratic. That is, either, *à la* Plato, he relegates the satisfaction of these lower, material wants to some third estate that can never achieve the status of philosopher-king; or, by exhortation from some superior height, he endeavors to chasten these wants, to will them away, or to transmute them by means of maxims. The

familiar technique of the moralist is to concentrate upon the "higher" wants, reserving for the "lower" a program of suppression or disdain. This is the usual dualism. The higher order is concentrated upon; the lower is neglected — and ethical theory remains ethical theory. One more complaint has been registered against man's materialism.

Can these complaints of the moralist and theologian against the grasping and selfish character of human society be sympathetically received unless they are accompanied by an interest in the social conditions which condition the health of human society? The materialism which ethics attacks is a portentous phenomenon. It is indeed a symbol of the forces that have made man a clever animal instead of the son of the gods of whom the philosopher-poets have sung. It is the very mark of the backward drag in human development. But can this materialism be moralized away? Or is it susceptible only to attacks on the economic and political front?

These contentions do not have to be documented. However, in order to indicate that the present argument is not an extravagant or "proletarian" misuse of philosophy and ethics, a few relevant quotations may be included.

> A very considerable portion of what is regarded as the inherent selfishness of mankind is the product of an inequitable distribution of power — inequitable because it shuts out some from the conditions which evoke and direct their capacities, while it produces a one-sided growth in those who have privilege. Much of the alleged unchangeableness of human nature signifies only that as long as social conditions are static and distribute opportunity unevenly, it is absurd to expect change in men's desires and aspirations. Special privilege always induces a standpat and reactionary attitude on the part of those who have it; in the end it usually provokes a blind range of destruction on the part of those who suffer from it. The intellectual blindness caused by privileged and monopolistic possession is made evident in "rationalization" of the misery and cultural degradation of others which

attend its existence. These are asserted to be the fault of those who suffer; to be the consequence of their own improvidence, lack of industry, wilful ignorance, etc. There is no favored class in history which has not suffered from distorted ideas and ideals, just as the deprived class has suffered from inertia and underdevelopment.[6]

Could a better system prevail in our lives a better order would establish itself in our thinking. It has not been for the want of keen senses, or personal genius, or a constant order in the outer world, that mankind has fallen back repeatedly into barbarism and superstition. It has been for want of good character, good example, and good government. There is a pathetic capacity in men to live nobly if only they would give one another the chance. The ideal of political perfection, vague and remote as it yet is, is certainly approachable, for it is as definite and constant as human nature.[7]

Upon the whole, economics has been treated as on a lower level than either morals or politics. Yet the life which men, women, and children actually lead, the opportunities open to them, the values which they are capable of enjoying, their education, their share in all the things of art and science, are mainly determined by economic conditions. Hence we can hardly expect a moral system which ignores economic conditions to be other than remote and empty.[8]

Such sober observations (and they could be multiplied at length, even from thinkers, like Bertrand Russell for example, who take different views of the function of philosophy) imply the criticism that moral systems have generally been transcendental; they have frequently done no more than express hope and good wishes. Ethics has been forced to seek its solutions aided only by the higher, ideal, and traditionally moral values. Its area has been restricted, for the conditioning factors which make real and vital the whole meaning of morals have been so often excluded. That

[6] Dewey and Tufts, *Ethics* (New York, Henry Holt, 1932 ed.), p. 386.
[7] Santayana, *Reasons in Science* (New York, Scribner's, 1922 ed.), p. 320.
[8] Dewey, *Quest for Certainty* (New York, Minton, Balch, 1929), p. 282.

is perhaps why ethical theory and its select associates have been regarded with so much suspicion by the social reformer. Their exclusiveness has robbed them of the richness which must be found in the dimension of man's "lower" wants.

These quotations, like so many others, seem to say that social philosophy — if not all philosophy — cannot allow itself to be drawn up into a tower. Any separation of moral philosophy from its "sordid" background, from an economic determination, is productive of the empty formalism which has characterized so much of ethics and of political philosophy. But ethics and politics are not formal; they are vital, instrumental. The conditions they handle are menacingly vital, destructively instrumental, since in our present order of things these conditions point to insecurity. It has been written that "it is hopeless to look for mental stability and integration when the economic bases of life are unsettled." Stability and integration — are they not what is sought by morals?

This discussion of economic and social problems would be out of place were it not for the fact that the consequences of economic and social operations are moral ones. These problems are of ethical import because they distort the society within which personality must develop and moral judgments arise and function. If such social material is not handled in some way by moral philosophy, then ethical visions will remain pious protestations and vague dreams, and the social sciences, looking strictly at their own affairs, will become afflicted with myopia. That the problems of international relations and economic security and political stability are yet unsolved is not simply a defy to the social sciences: it opposes all the forces of science, of philosophy, of human intelligence. Given a social order in which some have too much and others not enough; given an economic arrangement which places a premium upon the predatory elements in men and nations, and penalizes, at the same time, attempts to satisfy qualitatively different wants, there can be no sane and permanent adjustment in the field of ethics. Given a

background of fundamental world sickness, of war and rumors of war, and now into the hands of man given a physical power that can devastate the earth (and no longer in a literary sense *à la* H. G. Wells), the effect upon ethics cannot help but be what it has been so many times in the past — the removal of the good life from affairs here below to some intellectual world of transcendental purposes or, worse still, transformation of that life into an elaborate system of apologetics. Ethics cannot permit itself to be emasculated. We must say of it what William James said of God — that in this world of sweat and dirt, God cannot be a gentleman. He cannot refuse to get his hands soiled. So with ethics, and with all philosophy.

THE REQUIREMENTS OF AN OBJECTIVE ETHICS

In this chapter we have been endeavoring to find a general meaning for the term objective as it applies to ethics. The direction in which the meaning has been looked for has been a social one: thus, an objective ethics tends to become a social ethics. In attempting to draw certain inferences from these assertions it seems necessary to sharpen the relation between objective, social, and scientific, particularly in the light of this question: What characteristics must ethics possess to justify the use of adjectives like objective and scientific?

The answers to the question would be various. There would be some insistence that the question was meaningless, since scientific methodology demands a subject-matter totally different from the one presented by human conduct. This objection may be waived, since what is intended here is an ethical and not a natural science. Perhaps the word science should not be applied so generously, but it seems to be the only word we have. The answer to this question about the attributes of a scientific or objective ethics would suggest the following: (1) the presence of operational meaning; (2) the possibility, within the necessary limits of the subject-matter, of

employing some formula or technique of control; and (3) the opportunity for large-scale application. If ethics could satisfy demands such as these, it could lay some claim to being scientific. Only a social ethics seems to be in a position to give that kind of satisfaction.

Operational Meaning

The first point will not repeat the earlier arguments about operationalism and the meaning of meaning. But it may be helpful to note that the traditional vocabulary of moral philosophy has been notoriously ineffectual. Orthodox terms like virtue, conscience, Absolute Good, and the rest have never been able to be of much help. There will be no absurd contention that a mere change in terminology can introduce operational results. But it is believed that emphasis upon the social nature of ethics will inevitably turn philosophic attention from abstract words to empirical programs. This does not imply that moral philosophy should not concern itself with broad, general questions about human conduct. As with all philosophy, such a concern is part of the standard definition of philosophy. But an interest in social affairs, or specifically, in the conditioning background which helps to give human conduct its perspective and direction, will suggest ways and means for making even broad and general questions more relevant.

To become interested, say, in the aims of pre-school child training will help, not hinder, a philosopher's concern with how the right emotional attitudes in men and women can be secured. To know something about the details of race relations (one of the overpowering problems of the immediate future, a world problem but more particularly an American one) will implement rather than frustrate philosophic and religious hopes about universal brotherhood — and show the hard, practical difficulties that must be reckoned with and overcome. To confess to working in co-operative movements or in political persuasion (even ringing doorbells)

is also to confess that one's theories about social change have been taken out of cold storage and put into a situation where, to some degree at least, they can be tested. In other words, if there is to be operational meaning in ethics, some experimentalistic possibility must be presented; and it would appear that the only real opportunity for ethical experimentation lies in the province of social reconstruction, of economic and political change. The first operationalist criterion of objectivity is not too high a hurdle for an ethics which frankly and genuinely turns its thought (even if the turning is regarded as a purely hypothetical venture) to social measures and their moral consequences.

Control

This thought should carry over to the second test, control. Objectivity demands that some method be afforded for manipulating conditions and analyzing results. Indeed, scientific method is largely a matter of control — the ability to handle constants and to recognize variables. Of course, it must again be made clear that there is no intention here to confuse subject-matter, or to suggest that identical methods are everywhere applicable. Control is not a word which can be lengthened and shortened, procrustean-like, to fit any situation. Physical and chemical control is not the same as social control.

But, in the case of ethics, control must mean, at the very least, that individuals first are to be acted upon, and then the results of the action are to be noted. The present argument is that the most powerful moral conditioning an individual can receive comes from his social environment, and the corollary of this premise is, therefore, that the manipulation of the environment presents a technique for ethical control. This does not imply denial of a point previously noted — that all moral and social change must be a function of both the individual and the group. But it does propose that the focus of control be directed upon the educational and social methods for reaching the individual.

The failure to appreciate this method of approach to an individual seems to vitiate the most ingenious contributions, such as those, for example, of the eugenicist. Human beings, according to the biologico-hereditary school of contemporary psychology and sociology, must be handled as Gregor Mendel handled garden peas. Man's character cannot be vitally transformed by the social world. Instead, social change must originate via individual change, which is a matter of direct biological control. The undoubted fascination of such an interpretation of ethics tends to obscure the realization that a breeding program is the definite product and peculiar creation of a social system if not of a social class, and that it is as much dependent for its character and application upon the system as is any other social proposal. Individuals cannot be reached, even for the purpose of introducing direct measures of positive and negative eugenics, except through social agencies. Questions of means and instruments are all-important, and the means and instruments are, in this case, actual affairs of politics. Biology's contribution to the moral problem cannot be underestimated or in any way disparaged, but it does not afford a short-cut to the control and manipulation of the individual. Eugenics must work through the medium of a social structure.

How much more pertinent is this point when it is applied to the orthodox hortatory and theological ethics. The eugenicist, at any rate, attempts to control the individual through respectable scientific devices. But the traditional moralist has so often relied on nothing more potent than good intentions and wise sayings. He has harangued the individual. In short, an objective ethics must present at least the possibility of engineering, of control: control springs most realistically and effectively from the social world.

Application

Many writers have pointed out that changeless human nature is a myth. The fiction of an adamant and insulated individual who

has remained imperturbably immune to alteration ever since his paleolithic adventures, has been an amusing, although sometimes a vicious, fancy. It has placed a premium upon anatomy and physiology, and a handicap upon personality. To assert that social personality — which, after all, is really what we know as the individual — has continued fundamentally the same for ages is downright nonsense. Potentially, perhaps, man has remained more or less constant in certain gross features of his emotional makeup; that is the half-truth at the root of such a superstition. But actually, instead of being aloof, man has been the very creature of his surroundings, and his supposedly impregnable human nature has undergone fantastic acrobatics, not simply from one millennium to another, but from war to war, treaty to treaty, and even from one election to the next.

One need go no further back than the last few decades in Europe to see how malleable human nature can be. Both fascists and communists (not to mention middle-of-the-roaders) have been able, through education and propaganda, to substitute for the taken-for-granted ineradicable and unchangeable human nature, the strangest things: a genuine contempt for private profit, an almost fanatical devotion to The State, love of ribbons and names-being-posted-on-bulletin-boards, hatred of races and cultures, and what not. The moral connotation of fascism or communism is not the point here; for the American is just as surely motivated by slogans of competition, rivalry in a financial sense, and opportunity to get ahead. The content and the precise results are not the important thing: the lesson is rather in the form and process of social control. The illustrated thesis is that the moral self, in wholesale fashion, can be turned and directed and made over. There is an opportunity for large-scale application; but it is an opportunity to be found only when the ethical situation is regarded as a function of a social situation.

If ethics is to be tested by these three canons of objectivity —

operational meaning, control, and application — it must place its emphasis wholeheartedly and unambiguously upon the social factor. Such a shift in emphasis demands the critical co-operation of moral theory in analyzing and criticizing the economic and political programs which are being offered to contemporary society. This is no more than a plea for moral relevancy, a hope that ethics can remove itself from the realm of the merely academic and turn instead to the everyday affairs of social life.

THE CONSEQUENCES OF AN OBJECTIVE ETHICS

Were ethics not so vital, this rather long analysis might seem disproportionate. But it is vital; no other aspect of philosophy is so genuinely important. For "morals is as wide as everything which affects values of human living." Ethics is no mere matter of casuistry, any more than it is one of apologetics. Its concern must be: How can individuals be made moral, that is, how can they achieve expression, and how can they realize their opportunities; in a word, how can they lead normal social lives? What conditions will enable them to develop to the utmost their capacities for well-rounded and individualized personalities? These questions require objective answers; they require answers that can be supplied by social ethics — the textbook and philosophy department distinction between ethics and social ethics seems highly artificial. The plan of this chapter has been to emphasize the basic harmony which exists between the objective and scientific, and the social, interpretations of ethics. The one has meaning chiefly in terms of the other.

What other acceptable rendering of an objective morality is possible? No one could seriously insist that ethics be regarded as objective and scientific in a physical science sense, or in a strictly logical or mathematical sense. No one intends such a confusion of issues just because a similar vocabulary has been used. Neither would there be many contentions that an objective ethics must return to the traditional meaning of objective in philosophy, which

so often has been inextricably bound up with a metaphysical Absolute. But these are by no means exclusive interpretations of objective. There is also the freer translation essayed in the preceding pages, a translation that sees objective chiefly in terms of social.

It should be clear that the argument of the present chapter is at the same time a major thesis of the entire book. It has set forth what is felt to be the most acceptable expression of moral objectivity. But of equal or greater importance is the major corollary of the argument: a plea for the moral justification of social reconstruction, for a philosophical basis on which to erect a saner and healthier society. This is no request for social welfare palliatives. Social welfare, in its professional and sociological rendering, possibly deserves its reputation for anaemia. Moral philosophy should be satisfied with nothing less than an economic and political structure which makes possible the realization of at least some of its own large-scale ideals. If philosophy accepts a basically malformed society as a norm, it can rightly be accused of being either defeatist or obtuse.

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Chapter Eight

VALUES AND THE SOCIAL SCIENCES

THE INSISTENCE of the preceding pages upon the social orientation of ethical concepts is not a one-way insistence. A complementary demand can be made on the social sciences that they, in turn, must strive for an ethical orientation. In no other way can the deadly no-man's-land between morals and technology be crossed. In no other way can the fatal dualism separating an aloofly superior ethics from an allegedly neutral economics and politics be dissolved. It is the familiar problem of form and matter. An ethics devoid of social content is an eviscerated and bloodless thing; a social science cut off from moral direction is scrabbly and short-sighted. In the derogatory connotations of the words, the one is formal, the other, material. The one sacrifices facts, the other, values. But, to distort a famous line, facts without values are blind and values without facts are empty.

"KNOWLEDGE FOR WHAT?"

Such observations may seem to be the repetition of platitudes or a knocking-down of straw men. The first possibility is not too serious since, even if it is true, platitudes have a way of being overlooked — they are so obvious. The second cannot be allowed, for there is little doubt that great areas of social science have been seduced by the glamor of the natural sciences, but only a false glamor found in the supposed moral neutrality of natural science. Slogans like "more data," "a cool and impartial point of view," "description not judgment," and so on have had an enormous influ-

ence in the slant of the social sciences. The depression of the early thirties, the flourishing of totalitarianism, the war, and now the atomic bomb have been, of course, almost fatal blows at economic and political objectivity, but as late as 1939 Professor Robert Lynd could still pillory his fellow social scientists for their ostrich-like tactics.[1] An attack on the ethical detachment of certain sections of social science is by no means a whipping of dead horses.

In anticipation of a point to be made a few pages below, it may be noted that ethical detachment can be easily misunderstood. To question it — as in the case of social science — does not mean a plea for moral preachment, for getting excited, for launching attacks on problems so directly that all indirect and longtime concerns are jettisoned. Such an interpretation is an exaggerated one, to say the least. It is when ethical detachment becomes equivalent to indifference and to moral apathy that it becomes mischievous; it is when the explicit denial of values by a scientist becomes no more than a screen shielding an implicit acceptance of the values of the *status quo* that ethical detachment loses its privileged position.

The social scientist seems sometimes to have been misled by a doubly false analogy. First, there has been the belief that natural science is morally neutral; it is not. Next, there has been the hope that social science will ape all the techniques of physical science; it cannot. To be sure, these misconceptions do not make legitimate social interests any the less scientific or significant. For the patterns of science vary even if the scientific attitude remains constant. Methodology varies because all aspects of experience are equally real, and they demand their own treatment, which may or may not resemble a social physics. The scientific temper of mind appears to be a relatively permanent contribution of European culture, but it cannot be an indifferent temper of mind.

This point is vital and it must penetrate the universe of discourse of the social scientist. He is dealing above all with a culture,

[1] In his *Knowledge for What?* (Princeton University Press).

and perhaps his very first job is to understand that, as Lynd has carefully pointed out, no society, no culture, can be neutral; they are all vested. Indeed, if they were not vested, they could not be societies or cultures. They all operate, almost by definition, under a preferred system of values, even if the values are so often implicit. Implicit or explicit, the values become institutions — monogamous marriage, the ballot, private profit, ground burial, the wearing of three-piece suits by men, worship of one God, the eating of fish livers, indoor plumbing. If the social scientist does nothing else, he must disentangle those values, criticize them, accept, reject, or modify them. This is the real meaning of social science. Anything else seems just so much professional jargon or bead collecting.

Actually, no science, however physical or objective, collects data for the sake of collecting data. There are an unimaginable number of problems — the statistical plotting of the engine numbers of automobiles going through the Holland Tunnel each year; the range of eye colors in an armored division; the amount of hair on the heads of graduating classes of American colleges and universities — for which the data is not all in and never will be. As was noted in an earlier chapter, a scientific problem is a problem because it is selective and significant; the natural scientist is not neutral in his determination of a problem nor in his gathering of data. His values, not simply an idle curiosity, determine his course of action. Problems, not data, decide the validity of scientific research. The worry of the scientist, of any kind, cannot be: "Have we enough data?" but "Are we solving important problems?" This does not mean that empirical observation is in any way to be underestimated. The point is simply that there is a seductive quality to observation for its own sweet sake. Describing without judging can become a dangerous business.

There is only one way for the social scientist to be objective — objective, that is, in the artificial sense of being morally indifferent. It is to acknowledge uncritically and almost unconsciously the

status quo. He cannot abolish values from his field even if he wants to, because values are the long-time decision of the human animal; but what he can do is to make the implicit and unrecognized assumption that the institutions and practices with which he deals are to be accepted as they are. To be morally disinterested, he must even be suspicious of change, since change indicates an extension and development of values, that is, of human choices or assents. Therefore, when a social scientist adopts the mantle of this kind of objectivity, he is doing no more than saying yes to the concepts he employs: a price system, competition, the family, private property, political democracy, the two-party system, or whatever. There is nothing wrong about such an adoption, and the institutions handled may be eminently sound. The danger lies in the deception that although a man may say or indeed think he is having no traffic with moral values, he is instead conserving, even if unknowingly, the existing system of values.

Misconceptions About an Ethical Approach

There is no intention here to repeat an earlier description of scientific method, in which it was insisted that science, above all, includes a critical approach to any material whatsoever, and that to be critical means necessarily to employ some set of standards. But it does seem necessary to point out that the use of standards does not mean rushing off to the barricades! To infer from the argument being presented here that the scientist ought constantly to be hot and bothered, to juggle the evidence, to let emotion run wild, or at the very least to practice flagrant rationalizing, is not simply to draw a caricature: it is to fall into an elementary fallacy in logic. A more correct inference would be that no attitude except a critical, selective one has any relevance for scientific method, especially at a time when decisions, the most profound we can imagine, are being made and must continue to be made. Escapism is a possibility, but an escapist social science is almost a meaning-

The insistence that values enter integrally into the subject-matter of social science does not imply any moralistic bias, if by that is meant the approach to social problems in terms of moral praise and blame. Such an approach is usually connected with a kind of dogmatic ethics that makes of the good-bad judgment a fixed and cataleptic process not subject to scrutiny. "Communists are bad and private property is good." Or, "Capitalists are bad and only communal property is good." Extreme and naïve as these illustrations are, it is this sort of moralistic reaction which has made many social scientists allergic to what they conceive as an ethical orientation for economics and politics.[2]

But a reaction from one kind of ethical approach is not a warrant for abandoning all ethical approaches. Economics and politics cannot be blamed for turning away from value judgments that do not permit criticism and appraisal, which are the very hallmark of legitimate evaluation. That is no reason for turning away from an ethics that is a critical evaluation of values already current; and there is less reason for ignoring the fact that the consequences of social processes, consequences that lie in the realm of human satisfactions, introduce ethics into the material that social science describes. These two themes are central to the present chapter.

The misconceptions about an ethical orientation are as easy to fall into as any either-or, black-or-white pair of options. Thus, if

[2] Even John Dewey, who certainly would yield to no one in his insistence upon the ethical significance of social problems, attacks the moralistic approach to such problems. For instance, "serious social troubles tend to be interpreted in *moral* terms. That the situations themselves are profoundly moral in their causes and consequences, in the genuine sense of moral, need not be denied. But . . . approach to human problems in terms of moral blame and moral approbation, of wickedness or righteousness, is probably the greatest single obstacle now existing to development of competent methods in the field of social subject-matter." *Logic* (New York, Henry Holt, 1938), pp. 494-95.

social science is not to be amoral and neutral, then it must be doctrinaire and absolutistic. But there is a middle course that can be steered between two such dangerously simple alternatives. Certainly no honest or intelligent critic could question that there must be a degree of psychological and moral detachment in the scientist's attitude. While he is in the act of experimenting he does not load the dice. The point is an elementary commonplace and quite beyond challenge. Yet such objectivity by no means excludes the fundamental and preparatory presence of choices and values. On the other hand (this will require more discussion further on), these values, even precious ones such as democracy, happiness, or intelligence, cannot be regarded as guaranteed and unamendable blessings. They are not above critical examination. A point of view that insists upon an ethically-directed social science, yet demurs when it finds itself confronted with an unacceptable method of ethics, will be subject to attack from both right and left; nevertheless it seems the only attitude that can be justified.

A No Man's Land

There is another way of handling this argument. It is to suggest that if social science does exclude ethics and refuses to extrapolate facts into values, who will do the job? Of course, there is a cynical answer that the social scientist of this persuasion seems to overlook: An interested and far from detached party, say the National Association of Manufacturers, or the United States Chamber of Commerce, or the American Federation of Labor, will interpret the data. Is that what is wanted? But waiving that possibility, what is left?

The present writer used to have a famous economics teacher who astringently and sometimes dramatically told us something like this: "Gentlemen, we are here to study the science of political economy. For it is a science, gentlemen. We will learn, for example, the origin and history of economic institutions such as that

of private property. Now, gentlemen, as to whether private property is any 'good' or not—well, that is not for the economist, for the scientist, to decide. Perhaps, gentlemen, you will find an answer to that kind of question across the quadrangle in the Philosophy Building or, better still, across the Avenue at the Seminary." (Loud laughter.) To be sure, he was not sincere; that is why it was funny. Because he never would have admitted that the philosophers or the theologians knew any economics. Therefore, to be logical, no one would use values. But, once more, this, too, was insincere, for he himself was quite certain that private property was good. The values of the *status quo* he accepted, which itself is not the point at issue; it is simply that such acknowledgment was not made explicit.

If ethics is indeed to be excluded from economics and the other social sciences (and certain schools of thought make that purpose very articulate), this difficulty presents itself: Where are values to find a refuge and how are they to exercise intelligent control? Values can easily seek a haven from such snubbing by retreating to some remote region, carefully disinfected from the more lowly endeavors. That would be nothing new. More than once in the history of philosophy ethics has suffered nostalgia when brought down to earth from some Platonic heaven. But formerly it had itself sought that speculative world, whereas now it would appear to be banished there. In any event, the expulsion of valuation from the social sciences would mean the reintroduction of a traditional cleavage between ethics and the humbler sciences. Such a cleavage appears whenever ethics becomes too theoretically exalted to be hampered by the crudities of a sensuous world, or social theory, on the other hand, refuses to pay attention to what its knowledge is really for. The sure effect of either attitude is to make values remote and inoperative, to segregate judgment from description, and to present us with a dilemma-like choice between a social science that is without values or a social ethics that is without facts. A no man's land emerges that cannot be trod.

All this must not be interpreted as a plea for the wholesale fusion of ethics and the social sciences. The contention is a much more modest one, to the effect that social science can become richer and more vital if it puts aside, at least partially, certain frenetic attempts to resemble in detail the natural sciences, and if it turns frankly to questions of evaluation. Just as the last chapter was devoted to the thesis that ethics should concern itself with the more prosaic fields in order to proceed upon its path of evaluating with sufficient descriptive material and so be legitimately objective, a converse demand should be made upon social science, that it be not too neglectful of the responsibility for judging. There must be co-operation between the two; such co-operation might disclose a new path to their mutual operations, helping to make the one more susceptible to direction and the other less void of content. No fear of such a junction need result unless social science, on the one hand, begins to realize that it has been operating largely with surface material, or ethics, on the other, that it has so frequently neglected material of any nature.

VALUES AND METHODS

A few pages above appeared these sentences: "If the social scientist does nothing else, he must disentangle those values, criticize them, accept, reject, or modify them. This is the real meaning of social science." Let us go further now and assume that the American social scientist accepts a set of values that can be called democratic. The fact is that in America he would naturally accept and defend them: they are the vested values of our culture. Is not his job something far beyond the crude acknowledgment or rationalizing of even an allegedly democratic set of values? The critical attitude expected of the social scientist would seem to demand (1) the semantical clarification of what a "democratic set of values" means; (2) the attempt to implement such values, to make them truly operative; both of which suggest, (3) the realization by the

social scientist that democratic ends, however praiseworthy, are unapproachable without the appropriate economic, political, and strategic means, that is, that ends and means are a functional unit. We cannot acclaim the one and ignore the other.

At least two major questions can be distilled from assumptions like these: What are the source and the justification for any set of values, democratic or otherwise? What are the scientific methods for handling them? These two questions will be a focus for the remaining chapters, but the discussion will not be a repetition of the earlier analyses of similar problems, for the emphasis from now on will be upon specific details and applications. This emphasis will necessitate the introduction of necessarily controversial and unsettled material from economics and politics, but this should be welcome. It testifies that abstract values, like democracy, happiness, equality, are being broken down into more tangible and understandable sub-values, that ends are being replaced by means. Also, it is a challenge that confronts any social philosopher or social scientist.

Biological and Psychological Elements

The term value has appeared frequently in these pages, and although no arbitrary definition has been assigned to it several leading statements have been proposed. They include an emphasis upon the factor of decision between alternatives and the resulting long-time preferences that man has made in certain areas, and upon the realization that values are as real—even as objective and physical—as facts, and therefore as susceptible to scientific treatment. These assumptions will be retained, and their development will proceed along the specific lines indicated by biology and history.

To start on a very elementary plane, it must be recognized that the fundamental human values have an immediate connection with the fundamental biological wants or desires or needs. Even with such an elementary observation, at least three moot issues that

cluster around it have to be anticipated. (1) There is nothing low or sordid about human desires as such. They are what they are, the only moral question arising from them being one of integration, direction, and social expression. (2) No attempt will be made to discriminate between mental and bodily wants in terms of higher and lower status. The human being is to be considered as a psychophysical organism, as a unit and pattern of various kinds of drives that may be variously labeled. In other words, for the present discussion the traditional mind-body problem will be ignored. (3) A similar waiver will be offered in the matter of the nice discrimination between native and acquired elements in man's basic needs. The old instinct controversy need not be revived because, once more, the human animal is a unit, a *Gestalt,* and the precise degree to which his elemental urges are the product of genetics or conditioning is not of particular moment here. These are admittedly arbitrary disqualifications of unsettled problems, but some such limitation is required to get on with the present topic.

The basic needs of man have been catalogued in different ways. One of the most alliterative and catchy of the lists is that of Sex, Security, and Status. Others are more elaborately itemized accounts. Yet there is overwhelming agreement on a core of wants the satisfaction of which is a requirement for a completely functioning human organism. First, there are the so-called natural processes — the need for food, shelter, sexual expression, health, and growth. These are put first not as a correction of the moralistic disdain for the lower appetites, but because as a biological *sine qua non* they are the foundation of all human functioning. This foundation needs a superstructure above it, but "above" and "below" are only parts of an architectural analogy: they have little to do with praise and blame.

The idea of growth should provide a transition to other characteristically human wants no less crucial for the complete functioning of an individual. Biological growth is only one kind of growth.

There is also the development of meaning; the realization that the basic organic satisfactions are contributory to self-awareness, self-consciousness, curiosity, to an enlarging sensitivity. Here all the assertions about a well-rounded life, about mental as well as physical satisfactions, about the fusion of emotional with intellectual qualities, find their true place. The exploitation of his environment to enrich his total experience seems to be man's peculiar need. This craving for meaning, for all-around growth, is no less urgent than that for organic security. (Even deliberate insecurities are required, as in sports.) But no complete catalogue of human drives would limit itself to these individualistic items. There is social security in a sense different from that of recent federal legislation; the individual has tentacles stretching out for other individuals; he is one of the herd. His organic wants certainly include gregariousness, the need for others; but more than that, all his basic urges, however centripetal, develop in contact with others — his health, play, diet, appreciations, even his thinking and his dreams. They are conditioned; they are socialized in a twofold way — biological and sociological. In fact, the latter is becoming more and more vital as psychological research continues to demonstrate that even the organic drives sometimes amount to no more than a kind of restlessness whose content as well as direction depend upon the factor of normal or pathological conditioning. The sex drive is a good example.

But a precise catalogue of the fundamental needs is not particularly important. What is significant about man's elemental drives is, first, that they are not atomistic but form a pattern. It is a pattern that can be distorted or symmetrical. It is distorted when certain wants are unfulfilled or frustrated, or elevated to pathological supremacy; symmetrical when there is a maximum of balanced satisfaction, in which as many wants as possible are met without at the same time pinching off the outlets for others. The second point of significance is the competition between wants.

It is often overlooked that the words want or desire imply that something is lacking or wanting. Normally, things are desired only when they are missing. Food, shelter, sexual expression are cases in point. But some wants do conflict with others: the resolution of this conflict establishes the pattern of human personality. It also helps to establish human values. In an earlier discussion it was stressed that values arise when there is competition between alternatives. *A* and *B* are, for instance, incompatible choices; as one is chosen over the other it is thereby determined as the more valuable because more wanted. On the level of human needs, there is no abstract choice between an *A* and a *B*, but a clash between specific physiological demands, some of which can be realized only at the expense of others. As William James says, a philosopher cannot very well be at the same time a complete lady's man. The two patterns are incompatible. The point, then, is that this primary competition on a biological and psychological level affords the locus for the rise of values. The fundamental preferences of man in the basic areas of his living — the preferences that come to be called values — have a natural history behind them. Values function in a context, physiological in character.

Historical and Technological Elements

Values also function in a historical context. This context, which is the whole continuum of human culture, is the major determinant of just what values are preferred, and when and where. After all, the biological level of wants does not carry with it any warrant that one pattern is better than another, or that there is any essential difference between the philosopher and the clubman. Yet a discrimination is made somewhere, if nowhere else than in the history of philosophy and religion, which is a record, almost a catalogue, of what goods of life have been esteemed by the various cultures and ages. In modern times, however, it seems extraordinarily presumptuous to propose values that ought to be conserved, to ask

which ones should be supported and why. Nevertheless, it must be done. If not, the discussion of values can never leave the realm of pleasant abstractions; it can never interpolate specific goods into the social sciences or into anything else.

The question of what values are worthy of being sustained, or of what are the ultimate values, has been apparently so unanswerable that many recent theorists, in economics as well as in ethics, have given up the attempt. Rationalization for their surrender has taken several forms, all centering around the feeling that values constitute an ultimate premise, a basic assumption, which must be accepted upon irrational faith. More sophisticatedly, it has been contended that values are indefinable, primary data, "unanalyzable givens," about which it is useless to argue. One likes chocolate or one does not. Less sophisticated, but more honest, would be the admission that this kind of ethical nihilism is but another way of saying, "We give up." The same would be true of a kind of moral relativism that is equally popular — a kind of relativism only, since there is a more legitimate relativity, to be presented shortly, that refers values to culture and technology. But the more fashionable relativism professes that since ultimate values are undiscoverable, almost any old one will do. What's good for me may not be good for you. Fascism may be all right for one nation, democracy for another. Which is right? Who shall say? The worldly-wise skepticism and anarchy of such an attitude is a disguise for apathy, if for nothing more sinister.

The Traditional Values

There is, of course, good reason for reactions like the foregoing. Human history is studded with momentous answers to the question of what values are supreme, but the answers have cancelled each other. Pleasure or apathy, happiness or nobility, love or service, God or my fellowman, self-sacrifice or self-expression, myself or The State — the list is a long and eloquent one, and the names

invoked are majestic. Yet the logical reasons for one have seemed as valid as for another. In no case has a bell rung loudly enough to drown out the rival cries.

Nevertheless, one of these supreme choices — Happiness — seems to stand out so sharply as an all but universal preference that it can be taken as a model whose fate may represent what happens to all values when they are regarded as final. The reason why happiness, at least in its Utilitarian form — the greatest good for the greatest number — has won almost unanimous support is the very reason it cannot be regarded as ultimate, independent, or unchallengeable. For happiness has meant all things to all men. In different cultures and in different periods it has stood for concepts totally divergent. It is beyond the scope of this treatment to trace the course of the happiness principle (eudemonics), but several of the more familiar interpretations should be noted as illustrations of the thesis that happiness, the outstanding example of human value, is a cultural artifact and not a metaphysical absolute.

Happiness

In the opening pages of John Cowper Powys's brilliant *The Art of Happiness,* happiness is defined as "that particular glow of well-being that arises when something deep in us is being satisfied and fulfilled." This is a straightforward and sympathetic statement, except that the "something deep in us" may be satisfied in varying and conflicting ways. For example, Powys himself, although he distinguishes between happiness and pleasure, admits that the latter word more than any other represents what he has in mind. There always has been a close connection between the ideas of happiness and pleasure. The Utilitarians a century ago made that very clear. "By 'happiness' is intended pleasure, and the absence of pain; by 'unhappiness,' pain, and the privation of pleasure," wrote John Stuart Mill in the second chapter of his *Utilitarianism.*

Jeremy Bentham opened his *Principles of Morals and Legislation* by observing that "nature has placed mankind under the governance of two sovereign masters, *pain* and *pleasure.* It is for them alone to point out what we ought to do, as well as to determine what we shall do . . . The *principle of utility* (the greatest happiness principle) recognizes this subjection . . . " Thus, for Bentham and for many others, hedonism — the pursuit of pleasure — had a psychological warrant; that is, man naturally sought it and just as naturally avoided pain. Indeed, he possessed a moral "sentiment" or instinct that drove him on such a course.

To telescope happiness into pleasure seems to be a sensible way to handle morals; so it appeared certainly to the common-sense English thinkers who were prepared to talk quantitatively and scientifically about ethics in terms of the famous hedonistic or felicific calculus, as did Bentham. But a little consideration will show that, however plausible it may seem, happiness and pleasure are by no means synonyms, and that this first of the classic interpretations of the meaning of happiness cannot be successfully maintained. To quote Powys again:

> Happiness differs from Pleasure in this very thing, namely that the idea of *quality*, the idea of something mental and emotional, of something intellectual and what used to be called 'spiritual,' is added, in it, to the more sensual feeling. A man could be happy while he was in the act of sacrificing his life, whereas we should scruple about using the word pleasure in this connection.[3]

Mill himself, an alleged hedonist, nevertheless completely repudiates his original premise and definition (that happiness equals pleasure) no more than a page after he has made them, in this classic quotation:

> Few human creatures would consent to be changed into any of the lower animals, for a promise of the fullest allowance of a

[3] John Cowper Powys, *The Art of Happiness* (New York, Simon and Schuster, 1935), p. 4.

> beast's pleasures; no intelligent human being would consent to be a fool, no instructed person would be an ignoramus, no person of feeling and conscience would be selfish and base, even though they should be persuaded that the fool, the dunce, or the rascal is better satisfied with his lot than they are with theirs. . . . It is better to be a human being dissatisfied than a pig satisfied; better to be a Socrates dissatisfied than a fool satisfied.[4]

Certainly! But is this not substituting something else for happiness (pleasure)? This something else may perhaps be called happiness — as Aristotle called it — but it is a sense of dignity or nobility or humanness: it is not pleasure as we ordinarily use the word.

Moreover, pleasures differ. Bentham denied this, insisting that pleasures were homogeneous, and that "pushpin is as good as poetry" (in Mill's critical phrase) if like amounts of pleasure resulted. This complicates the problem, for the believer in happiness, if he is a hedonist, is supposedly looking for the "right" kind of pleasure, the kind that will make him happy. He is looking for a way of life for which pleasure is the recipe; yet is pleasure the epicurean sensual indulgence that Epicurus, Lucretius, and other great thinkers repudiated? Or is it what the Epicureans held to be true pleasure — a quiet and emotionally indifferent life devoted to high thinking? There is a world of difference between them, between a Nero and a Horace or an Omar Khayyám. Which is the true pleasure? [5] To shift to another dimension, is pleasure determined, as the Epicureans believed, by individual and centripetal action with small concern for others; or, as the Utilitarians contended, by a social consciousness that finds satisfaction in effecting "the greatest good

[4] John Stuart Mill, *Utilitarianism* (Everyman's Library ed., New York, E. P. Dutton, 1910), pp. 8-9.

[5] Few philosophical defenses have been made of the orgiastic type of pleasure. (The *Memoirs* of the Marquis de Sade may be an exception.) Yet unquestionably, at least on the basis of the Benthamite assumption and calculus, a logical and psychological case for the Rabelaisian pleasures could easily be attempted.

for the greatest number"? Again, the choice is crucial. Pleasure, no less than happiness, means all things to all men.

But the import of happiness is not exhausted by relating it to pleasure. The most illustrious eudaemonist of all was Aristotle, who scorned the identity of pleasure with happiness, although he admitted that a happy life must and would include pleasure and the absence of pain. For that matter, a truly happy life would also include wealth and friends and living in a city like Athens, even good looks. Yet these external goods, like pleasure, were secondary. The core of happiness was something far different. It was to live characteristically, like a man; to realize the function of man, which was — as it would almost have to be in the Athens of the fourth century — thinking. Everything in the universe had its function, its end, its final cause: this was the root of Aristotelian metaphysics. Man was not exempt from this cosmic process. He, too, had a goal: to live intelligently, reflectively, contemplatively. The appeal this basis of life makes to all of us accounts for the incalculable influence Aristotle's *Ethics* has had on all Western culture. There is a dignity and a nobility apparent here that cannot be put aside, even by John Stuart Mill who sacrifices happiness to it by choosing an unsatisfied Socrates over a satisfied dolt. Living functionally is what Aristotle meant by living a happy life. Happiness was not pleasure. It was to lead the life of reason, a life that constituted man's differential over other animals. Any other kind of life, such as that of the hedonist, was to live under capacity, to miss the opportunity of being a whole man, and therefore to miss being a happy one.

The exposition of Aristotelian ethics is not the intention here. The reference to Aristotle is for the purpose of presenting a totally different approach to happiness from that of the pleasure-pain theory. Happiness may indeed be (as in some ways it should be) a dominant human value, but does it signify putting pleasure first or human dignity? Or is it something the pursuit of which constitutes one of man's inalienable rights? The Declaration of Inde-

pendence appears to take happiness for granted. Perhaps in a sense that is the proper attitude to assume, for *the general content of happiness is supplied by the mores of a given place and time: happiness becomes a function of a culture.*

To the ancient Greek, living in a class society where free citizens were exempt from menial work, the formula for happiness, for characteristically human living, was clearly the noble life of philosophical speculation; this would be as natural and self-evident as would the Utilitarian concern for the good of all at a time when a new middle class with its great Reform Bill was remaking the political map of England. No less evident and natural would be the right to pursue happiness in a young pioneering nation free from the sense of guilt and pessimism about man from which Europe never freed itself, even during the French Revolution. Lafayette's proposal for *la recherche du bonheur* was never found in any of the three great French Declarations.

As Professor Ayres puts it: "We hold this truth to be self-evident, that men who live by democracy, or by capital, [or anything else] will find in it their happiness; and that is all that is self-evident." [6] But it is not self-evident that happiness, or anything else, must be set up as a final metaphysical value that stands alone, outside of any context, and that must be accepted upon irrational faith as something given and undefinable. Divorced from a context, happiness, like any other value, turns into (*a*) an abstract verbalism which can mean anything or nothing; or (*b*) a frozen slice of culture whose dynamic has been lost, a dead cross-section elevated to a position absolute and eternal.

This discussion of the implications of a value like happiness has stemmed from the larger problem of historical or cultural or technological factors that help to provide the source and justification for human choices. Cultural elements, it has been argued, play

[6] *The Theory of Economic Progress*, p. 75 (The University of North Carolina Press, 1944).

a leading rôle in the conditioning of the biological and psychological ingredients of man's decisions, which, in the long run, are going to emerge as values claiming our allegiance.

"A leading rôle," however, does not mean one that crushes out all others. The influence of cultural factors in helping to determine what people think and choose is not repudiated when, for example, prophets and rebels are found. Revolutionaries can be accounted for by a number of hypotheses, no one of which is necessarily antagonistic to cultural determinism. For example, there is the Marxist argument that finds revolution implicit in the economic contradictions of any given society; or the Freudian theory, which sees the rebel as a socially maladjusted individual; or a more pedestrian explanation, to the effect that individual differences are present in any culture and that a normal curve of distribution must have its extremes, in this case complete conformity or complete insurrectionism. Original ideas will appear in ethics, as in any other field. No culture pattern can blot them out.

More important, however, than the interesting theories about the nonconformist would be an attempt to choose among the different values presented by a culture, whatever be the source of those values. No matter how risky, that attempt must be made. Any aseptic refusal to make moral choices is to do no more than accept uncritically choices which others have already made.

THE BASES UPON WHICH CHOICE OF VALUES CAN BE MADE

Biological

There can be little question that the starting-place for any decision about human values must be found in the biological wants that drive man's energies. These would include, to follow the suggestions made some pages back, the straight physiological demands for food, shelter, sexual expression, health, and growth; the psychical urge for meaning, self-expression, the satisfaction of curiosity, and a widened and heightened sensitivity; the social needs that force

the individual to stretch out for others: all of them — physiological, psychical, and social — developing into some kind of pattern, symmetrical or crippled, that will provide the background for a personality. Even this kind of catalogue, of course, is oversimplified. For example, health and growth, not to mention some of the others, are themselves abstract concepts when, actually, what they are supposed to represent are specific conditions and processes that require detailed physiological itemizing. The garage mechanic, to shift the illustration, does not keep before him the general goal of a soundly functioning engine when he makes repairs. He engages in definite, specific inquiries, as does the physician when he investigates the body and its functioning. An over-all idea of a healthy engine (or body) may result from such inquiries: it does not precede them. Health or growth, or even seemingly more specific needs such as that of sexual expression, are names given *ex post facto* to a series of concrete happenings; to regard them as already established in some *a priori* fashion is to interpret human drives as antecedent philosophical principles rather than as tissue changes. Such a qualification does not destroy the validity of listing the possibly abstract human wants that must be considered; it does sound a note of warning when they become hypostatized into Biological Entities.

Another oversimplification is in the otherwise excellent word, "pattern." For a pattern does not emerge automatically or painlessly out of man's basic wants; it is not like a blend counseled in a recipe, a little of this and a little of that. Human needs, and the interests which arise from them, are in conflict throughout. In this conflict, as was noted before, choices, however unconscious, are made and values come forth as they do on other levels; also, as on other levels, if the conflict becomes unendurable one or more of the interests must go. The personality pattern that begins to issue from this elemental competition is a compromise hammered out of a struggle for existence as savage (even if as private) as any in

biological history. All this is not meant to complicate the present argument. It is merely to notice that the phrase, "satisfaction of basic physiological needs," is not the primer kind.

But it is primer-simple to insist that in any approach to the problem of human values the starting-point is to be found among the psychological and biological wants. As commonplace as it is, the point has too often been overlooked by the traditional philosophic approach to value. It is the point celebrated in the old French proverb, *Dans la bête assoupi un ange se reveille* (In the satisfied animal awakes an angel). The basic needs of man must be considered before anything else can be discussed. No ethical system, no hierarchy of values, can be established with any pretense to relevance or permanence without a foundation having been laid; the building-blocks of that foundation can be nothing else but the elemental human wants. Unlike the story about the world resting on a tortoise and the tortoise on something else and so on "all the way down," such a foundation needs no Atlas to support it. It is itself the massive base of all human history — the base, not necessarily the delicate tracery of the topmost stonework.

The foregoing says nothing more than this: that unless man has sufficient and correct food and shelter he will either die or grow into an unhealthy, stunted caricature; that unless he has opportunities for psychical as well as physical satisfaction, that is, a chance to develop curiosity, to widen his horizons, to exhaust his capacity for meaning, sensitivity, and intellectual growth, he will become a counterfeit man, the "boob" that cynical Menckens and contemptuous Nietszches have always held up to scorn; that, finally, unless he participates fully in the society of which he is an integral part, being given the opportunity to contribute whatever his talents permit and to share proportionately in the economic, political, educational, and cultural life of his society, he must turn into a part-man, a false replica of the personality that full social participation could help to create. These may be truisms. Certainly they need

the specific elaboration that will be attempted further on. Nevertheless, as a *sine qua non* for the erection of a system of values, this cluster of primal demands must first be grappled with. However precious, even esoteric, ethical and esthetic values may become, they cannot cut themselves loose from the framework of biological and psychological and social needs in which human beings have to grow. Reiteration of this elementary point should be unnecessary; unfortunately, it is necessary — at least occasionally — for philosophers.

The Social Bases

But elementary observations like these about the foundation of human values afford little help in making choices between different and conflicting sets of values. Which personality pattern is to be applauded and which wants? To declare that as many human wants as possible are to be satisfied is incontrovertible, but only in an honorific sense; for there is an unholy struggle constantly going on, and that the pattern which emerges will automatically be entire and symmetrical is too much to expect. But even if it were smooth and well-rounded, again, what is the criterion of judgment? Is it symmetrical for the lady's man or for the philosopher? Is the standard that of sacrifice or pleasure, and if the latter, what kind? Is it happiness? Is the path of life to be one of detached contemplation or of sensual abandonment, of action or of classic restraint, of love or of duty — paths of life that Professor Morris has called by names such as Buddhist, Dionysian, Promethean, Apollonian, Christian, and so on.[7]

The easiest way out perhaps would be to bypass this most ancient and yet most modern and most tremendous of human decisions by saying, "a little of one and some of the other." A harmonious synthesis would seem to be indicated. Something of Gandhi and of John Dewey, and even a little of Nietzsche might be prescribed.

[7] Charles Morris, *Paths of Life* (New York, Harper's, 1942).

Indeed, Professor Morris does a bit of this in his presentation of "Maitreyan Man." But that kind of synthesis is eminently plausible only, again, in an honorific sense. What would be needed to effect such a praiseworthy mixture would be a superculture, one in which the historical and technical differentials between cultures would be, by some higher algebra, canceled out. For there is competition, not necessarily overt, between cultures just as there is among man's basic drives. The traditional placidness of the Far East (a notion somewhat shattered by events in recent years) versus the activism of the West; or the leisureliness of the South (of Europe or America) over against the hustle of the North — these are bound up with different paths of life just as they are with different social customs, speech, or diet. Any attempted synthesis among life aims so fundamentally contrasting would have to reckon with nothing less than a world culture; if not, it would be no more than the most superficial moral veneer. It is not man's biological needs, or even climate, that account for the startling differences between, say, a Hindu's path of life and a Parisian's, or between a Chinese sage and an American pragmatist. Biological needs are indeed the foundation for any system of values, but the way the architecture grows is a cultural, not a biological, matter. It is a technological matter. So it would seem that the momentous process of choosing among the paths of life would also be a cultural and technological one.[8]

Certain suggestions about that technique of decision will be presented here, although it must be realized that such a presentation can be no more than a tentative outline. The problem demands attention, especially in the light of the argument proposed in this chapter, but the attention cannot be allowed to turn into one more system of pontifically absolute values.

Laying down a series of assumptions may be the easiest way to

[8] For the best recent treatment of a technological approach to value, see *The Theory of Economic Progress*, by C. E. Ayres, especially chapters IV, VI, X, and XII.

undertake a possible outline. One of those assumptions has already been used in the preceding paragraphs. It is to the effect that the choice among human values cannot be made on the basis of an abstract and transcendental criterion which, however noble it may be, stands outside the system it is expected to judge. At least, the choice cannot be made legitimately and functionally on such a basis. There would be required for that kind of choice either a super-culture — and, glorious as that would be, it has not yet arrived — or some intuition or revelation of the right way of life. The latter has been tried often enough, with catastrophic results.

This assumption, however, is only a negative one. More positive would be the insistence that since we cannot get out of a cultural process through tugging at our boot-straps and so arrive at some infinite and all-wise position, the standard for human value must somehow be located intramurally within a going technology, within a set of functional social institutions. Of course, the words "going" and "functional" are question-begging ones, for what makes a system "go" or be "functional"? The following assumptions, all of them closely related, would attempt to give an answer. (1) A culture must be judged by its efficiency in maintaining itself and by its progress along a definite technological line. (2) The line of technological progress is determined by the degree to which men understand their surroundings or environment, interpreted in the broadest sense as a culture matrix involving physical, biological, and social factors. (3) Understanding or knowledge is a matter of doing, of control and change, not simply of contemplation.

The Place of Knowledge in Determining Values

These assumptions, it will be noted, are pyramided, with the apex pointing to the moral significance of human knowledge and understanding. In a philosophic setting, this is a familiar point of view. From Plato and Aristotle on down, the good has been equated with truth, reason, thinking, above all, with contemplation. The ulti-

mate end of man is to be intelligent, which, for Aristotle and others, is to be happy. In John Erskine's phrase man has a "moral obligation to be intelligent." What, then, is different about an instrumentalist approach to the equation of value with reflective thinking? The answer would seem to lie in the emphasis upon the knowing process.

The process of knowing, of inquiry, of scientific method, of reflective thinking (all these are being used here as interchangeable terms) has been outlined a number of times before. Fundamental to the procedure is the refusal to accept the traditional elevation of knowing over doing, of theory above practice. Methods are always of supreme interest to the experimentalist, and, by their very nature and use, methods must be operational and active. This interpretation of knowing means much more than the employment of tricky machinery. In its widest sense it signifies opposition to fixed ends, system-making, and changelessness; it signifies a refusal to divorce thought from action. It stands for provisionalism and reconstruction, the reliance upon working hypotheses rather than upon immutable principles. Thus, this kind of knowing is in no wise limited to the professional scientist. It represents an attitude that can function in any area of experience, an attitude of free and effective intelligence. That attitude is exemplified whenever men put aside the comfort of political maxims and turn their attention to the analysis of face-to-face situations and the scrutiny of specific legislative programs; when they leave the security of What-Everyone-Knows about morals and try to account for the exceptions and deviations; when, in general, they refuse to be satisfied with slogans, however august.

It is such an attitude which must characterize the knowledge and understanding proposed here as the criterion of value. The test of human value is *the degree to which it manifests and preserves free intelligent inquiry.* The general ethical standard of any human culture is that the scientific attitude has become an integral part of it.

In the procedures of instrumental knowing, which alone permit cultures to maintain themselves and to understand and control their surroundings, is to be found the validity of human values. These are all different ways of trying to say the same thing.

Yet no matter how many ways the thing is said, it will meet familiar, not to say threadbare, objection. Free inquiry, so the objection goes, must be a means to some alleged good. Without a goal (and none seems detectable in this analysis), the instrument of scientific knowing can be instrumental only to itself. This is the trap into which instrumentalism always falls. Scientific method must be a mean to some ulterior end, to some intrinsic value.

This kind of criticism misses the central point of instrumentalism, which is that instruments and goals are not separate. Goals are the upshots and the outcomes of instruments; ends are the consequences of means, just as effects are of causes.[9] Methods are themselves efficacious. Legitimate scientific method, for example, changes both the investigator and the problem, no matter what may be the profession about ends. Such a contention may seem bizarre and directionless. If it does, the reason is perhaps that, as was suggested before, scientific method has evolved against a philosophic and religious background characterized by a metaphysical belief in intrinsic values. That is a difficult belief to shed. But until it is shed, the lesson that ideals are inseparable from techniques, the lesson that science has to teach, has not yet been learned.

The objection to the present point of view may be put in still another way: If the free working of human intelligence is itself supreme, does not this imply an ultimate value or end, one that sounds suspiciously like any other respectable *summum bonum* of historical ethics? John Dewey, the most consistent and powerful instrumentalist in the history of ideas, answers that question this way:

[9] This argument has already been developed, with illustrations, in an earlier context, *supra*, pp. 206 ff.

> I have carried on a polemic against ultimates and finalities because I found them presented as things that are inherently absolute, like "ends-in-themselves" instead of ends-in-relationships. The reason they have been proferred as absolutes is that they have been taken out of any and all *temporal* context. A thing may be ultimate in the sense of coming last in a given temporal series, so that it is ultimate *for that series.* There are things that come last in reflective valuations and, as terminal, they are ultimate. Now [one] is quite right in saying that for me the method of intelligent action is precisely such an ultimate value. It is the last, the final or closing, thing we come upon in inquiry into inquiry. But the place it occupies in the *temporal* manifestation of inquiry is what makes it such a value, not some property it possesses in and of itself, in the isolation of non-relatedness. It is ultimate in use and function; it does not claim to be ultimate because of an absolute "inherent nature" making it sacrosanct, a transcendent object of worship.[10]

Like knowledge, values are contextual. They are part of a process, of a technology. Outside their structure, they become meaningless or arbitrary. To be sure, techniques can be overplayed: The magical Science invoked by the radio advertiser would be one example. Another would be Americanism in the bad sense, in which gadgets become a compensation for refinement and the bourgeois virtues of successful manipulation are elevated above all else. But such worship is precisely the thing that Dewey deplores. It comes from consecrating a methodology, from making it an end-in-itself; whereas an end-in-view, in a context, functions as a plan of operation that helps to overcome a difficulty. Concentration on methods can be and has been overdone; nevertheless, it is a risk that must be taken if for no other reason than that such concentration constitutes a powerful prophylactic against the obstinate concern with human values that are unapproachably aloof.

[10] Quoted from *The Philosophy of John Dewey* (The Library of Living Philosophers, vol. I), p. 594.

INQUIRY IN SOCIAL PHILOSOPHY

That the social sciences cannot be divorced from questions of values, and that values are intimately related to the procedures of experimental knowing, are two points that have been central in the present analysis. A further point can also be added, that experimental knowing or scientific method is not confined to the natural sciences; its attitudes and approaches are everywhere applicable.

These items might suggest that a true Copernican revolution could be effected in social and political philosophy were there a genuine acceptance of the experimentalist attitude. For example, that attitude would tend to dislocate the orbit of social philosophy, which to a great extent is centered in fixed concepts and bound to them by what John Dewey has termed "the logic of general notions." As an illustration, "we need guidance in dealing with particular perplexities in domestic life and are met by dissertations on the Family or by assertions of the sacredness of individual Personality. We want to know about the worth of the institution of private property as it operates under given conditions of time and place. We meet with the reply of Proudhon that property generally is theft, or with that of Hegel that the realization of will is the end of all institutions, and that private ownership as the expression of mastery of personality over physical nature is a necessary element in such realization." [11] Were Dewey writing this passage today he could find many additional general notions that pass for thinking in current economics and politics: War is inevitable . . . Pacifism is the only solution for international problems . . . Some races are naturally superior to others . . . Free enterprise cannot be questioned . . . The class struggle must come.

The point being made here has little to do with the rightness or

[11] Dewey in *Reconstruction in Philosophy (op. cit.)*, p. 189. (The above two pages of text are adaptations of the present writer's chapter in *The Philosophy of John Dewey (op. cit.)*, chapter 11.)

wrongness of these or similar beliefs, but with the conviction that such pronouncements of majestic, universal principles stop investigation instead of initiating it. Whereas the scientific attitude does forward investigation because it makes demands for the specific formulation and diagnosis of problems, for data, for provisional multiple-working hypotheses, for the testing of beliefs by consequences, for empirical verification where possible.

More than anything else, this kind of reconstruction of social philosophy requires that programs cannot be determined in advance. This is fundamental. It does not mean, as caricaturists would have it mean, that the instrumentalist starts from a vacuum with no concepts or programs whatsoever. It does mean that concepts and programs be used as tools of inquiry to advance investigation instead of to block it. It does mean that plans of action be regarded as working hypotheses to be supported or repudiated, as they are in the natural sciences, by the consequences that ensue.

This may all sound plausible though dull. But the acceptance of such a policy would remove from social thinking some of our most cherished playthings. It would make inquiry in this field a matter of gathering prosaic facts and putting forward tentative and halting explanations, risking them to ridicule and collapse at every moment, accepting their collapse and trying other solutions — all of which would be considered by many thinkers as dreadfully dreary and grubby business, quite different from the warm and pleasing irrelevance of after-dinner conversation. It would mean, in short, a revolution in thought just as middle-class and unspectacular, but just as stupendous, as the revolution in industry of a century and a half ago.

As with all significant knowledge, that operating in the area of social science is an attempt to solve a problem. But problem-solving, at least that which characterizes science, is an active process, one that transforms the subject-matter which has set the problem. When difficulties are overcome through the techniques of

experimentalism there is an actual modification of conditions. Certain things are done, to gases in a bell jar, to electrical particles in a cloud chamber, to elements when they are combined, to tissue when it is stained, to infants in a nursery, even to adults in a depression. Thus, there is the assumption that conditions are relatively plastic, that they can be changed. It is the assumption that, except in a truistic sense, things can never be taken as they are because they are never substantially the same from one problem to the next. The patent-medicine pictures of "Before and After Taking" are appropriate to the material that is affected by experiment (and all experiments are not necessarily performed in stainless laboratories). Things are not the same after scientific "knowing" has been directed upon them. These are commonplaces of scientific method, and they add up to a repudiation of difficulties or solutions so fixed in advance that they lie inevitably outside the field of inquiry.

These are by no means commonplaces in ethics or in social philosophy. Indeed, they suggest massive and revolutionary changes in those regions. Too often, the contents of social thought are a reflex of some allegedly intrinsic truth that allows no margin for time, place, or circumstance. As such it can have little interest for scientific method, because no way is provided to manipulate or to modify. If, for example, the acquisitive and belligerent tendencies of human nature are really unchangeable; if the religious ideas of a sect in Asia Minor during the opening years of the Roman Empire are the absolute truth in the field of human worship; if the kind of economy that became dominant in Western Europe after the Commercial Revolution of the sixteenth and seventeenth centuries is indeed the revealed and inescapable way that men must forever handle the problems of making a living; if a sociology of Americanism, as interpreted by the costumes, sets, beauty qualifications, sex mores, and Pollyanna-Horatio Alger ethics of a town called Hollywood, is to be foisted upon all seeing

and hearing human beings as the only truly civilized way of life — if all these are taken seriously as permanently established doctrines that can suffer no significant alteration, then, obviously, scientific method need not apply. It is only when some free play is allowed for the transformation of subject-matter that laws and problems become scientifically (that is, experimentally) meaningful.

This whole contention, of course, will be seriously misunderstood if it is mistakenly believed that there is anything facile about such a transformation. The difficulties of introducing genuinely intelligent and scientific attitudes into ethics and economics and politics — not to mention international affairs — are in all probability the most stupendous man has to face. And some days, when the news is particularly discouraging — the days when liberals become tired — one may feel that the difficulties are insoluble and that nothing is left for the human animal but to return to its cave and start all over again. It is not the facility but the necessity of engineering a shift from absolutism to reflective inquiry that is being insisted upon here. Without such a shift the field of values and of social theory must remain forever an alien: it cannot be accepted into that most characteristically human of enterprises, the solving of problems through the procedures of deliberate reconstruction.

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Chapter Nine

SOME PROBLEMS OF POLITICAL PHILOSOPHY

IN ANY PRELIMINARY DISCUSSION, even the briefest, of what are called social problems, there must be the familiar insistence that the social sciences function as a unit rather than as separate and competing enterprises. As orthodox a venture as the *Encyclopaedia of Social Science* made that clear a number of years ago in its general introduction. The political scientist without a grasp of economics, the economist minus a knowledge of sociology and social psychology, the lawyer or historian deprived of the benefit of anthropology, not to mention evolutionary ethics and social philosophy — all of these would be specialists in the unwelcome sense. Concentration, of course, there must be, but it is in the borderland fields of political economy, social history, cultural anthropology, and so on that specialization becomes truly fruitful. Therefore, any division here of material into chapters labeled political or economic must first acknowledge the priority of social synthesis.

There is also the question of priority of problems: which are the ones demanding basic consideration: ethical, economic, political, sociological? To answer that would mean nothing less than a complete philosophy of history, which is no part of the present intention. Neither is there any intention, in placing a chapter on politics before one on economics, to elevate one over the other. As a matter of fact, it seems clear that in terms of causal significance economic discussion should precede political. But political philosophy is considered first because it may provide orientation and direction, with

economics supplying the equally necessary techniques and adjustments.

THE SIGNIFICANCE OF DEMOCRACY: A SUGGESTION

To understand the trend of the present chapter and those that follow, it may be helpful to repeat some lines from an earlier page: "Let us . . . assume that the American social scientist accepts a set of values that can be called 'democratic.' The fact is that in America he would naturally accept and defend them; they are the 'vested' values of our culture. Is not his job something far beyond the crude acknowledgment or rationalizing of even an allegedly democratic set of values? The critical attitude expected of the social scientist would seem to demand (1) the 'semantical' clarifying of just what a 'democratic set of values' means; (2) the attempt to implement such values — when they are given meaning — and make them truly operative; both of which suggest (3) the realization on the part of social science that democratic ends, however praiseworthy, are unapproachable without the appropriate economic, political, and strategic means, that ends and means are a functional unit — we cannot acclaim the one and ignore the other." What, then, are the basic assumptions of democracy?

The Basic Assumptions of Democracy

Basic assumptions underlie all human beliefs, and the principal task of philosophy is the detection and examination of those assumptions. Whether such assumptions are right or wrong is not the *first* judgment required of philosophy; it is a later concern, in some cases one that is never reached at all, just as the rightness or wrongness of mathematical postulates is ordinarily never reached at all. Essential to anything that can be called philosophical is the making explicit of what ordinarily is implicit. Philosophy lowers the threshold of sensitivity to man's fundamental axioms, not simply those he cannot prove — for axioms are not provable — but those

he does not know he uses. The job of political philosophy is not different in this respect from that of all philosophy.

Why an analysis of a democratic set of values should appear more appropriate for political philosophy than, say, for ethics is simply a matter of custom. Rather arbitrarily the concept of democracy has become identified with politics and government because of its literal meaning, but it can be deployed all over the field of values. In all events, a first assumption of democracy is similar to the assumption that provides a foundation for all values: man has certain biological wants that must be considered before anything else can be discussed. This point was presented in the preceding chapter. At the same time it was made clear that satisfaction of even the most subtle psychological drives is not in itself a criterion for value; in good philosophic terminology, it is a necessary but not a sufficient condition for an ethical system. A further assumption was therefore proposed, one social as well as biological: the test of value may be discovered in a technological process, that of progress in understanding and controlling the elements of a given culture. In turn, this seemed to point inescapably to the overwhelming significance of free intelligent inquiry as a keystone of the entire ethical arch.

These assumptions are being reviewed because there should be little difficulty in relating them not simply to the abstract concept of an *x* system of values but to what is being termed here a democratic set of values. Assumptions like these should make less banal the familiar insistence that democracy is more than a political scheme, that it is substantially an attitude, a way of life. For what are the implications of this line of approach? One of them, at least, should be apparent. The assumption that the starting-place for any decision about values is to be located in the fundamental biological wants implies that the origin of values is to be found among men. This would be a truism except when the emphasis is put upon *men,* not upon any single group or any particular class.

The biological demands of the human being are what count here, not those of an élite. To accept the assumption that basic needs must first be satisfied is to reject the assumption that the needs of some are automatically to be preferred over those of others. If this be the "worship of the common man" that people like Max Beerbohm have sneered at, let us make the most of it. When, therefore, philosophers of democracy talk about man being treated as an end in himself and not as a means to an end, or about the growth of human personality as a criterion for the good state, they are making implications which rest firmly upon the assumption that value systems do not begin to count until Man (that is, all men) is first given the opportunity to satisfy his whole complex of biological and psychic needs.

No less significant for what can be called a democratic set of values is the technological assumption that the choice among values can be related to free intelligent inquiry, to the practices of scientific method itself. The coincidence between democracy and experimentalist thinking is no casual one. Neither was the coincidence between the commercial and scientific and political revolutions a casual one. It is beyond the scope of the present exposition to attempt a detailed historical analysis of the rationalistic movements from the sixteenth through the eighteenth centuries that helped to overthrow important segments of political, religious, and ideological authoritarianism. But some attention must be paid to the democratic implications that seem to flow from a method of problem-solving such as that of scientific inquiry. In an earlier chapter it was suggested that scientific inquiry is above all an attitude, a method of approach, one that is characterized by qualities like tentativeness, operationalism, and criticism. What have these to do with democratic values?

Democracy and Science

If there is one premise that stands out in any discussion of

political, economic, or philosophical democracy, it is that answers to problems are not discoverable in any one person or group, but in the contributions of all, that truth is not revealed to a leader or to a class but is a function of "the assemblage of unique qualities in all men." This is a bold assumption, but it is crucial. No other premise furnishes so powerful a lever for dislocating dogmatism and absolutes. For it, theories, the most august, remain theories; they do not turn into totalitarian dogmas. This does not in any way imply that action is inhibited. This point was discussed fully in a previous connection. Here it can simply be noted again that the basic assumption of all forms of totalitarianism and absolutism is the constipated notion that unless there is absolute certainty nothing can be done. Unless there is a religious, not to say a mystical, unanimity on doctrine, movement is postponed. No place for the opposition, for the exception, for the minority, can be found. This is a mischievous perversion of a methodology that, in fact, has made more things move than has any other force in Western culture. But it is action that has still made place for the opposition, for the exception, for the minority, because the hypothetical spirit has become part of the scientist's intellectual furniture.

This tentative attitude is not something of sweet reasonableness. Critics of scientism have ridiculed the supposed utopian and idealistic temper that they mistakenly find in, say, scientific humanism because that temper, at least in the social scene, is alleged to provide a refuge from action in sweetness and light and the joys of both sides of a question. It licenses one not to make up his mind — especially in politics. But it is not sweetness and light that guide the scientist to the use of hypotheses instead of dogmas. It is cold-blooded realism. For no other way has yet been discovered to control a modern technology that is revolutionary in its impact. Its dynamic has allowed nothing to remain unchanged: knowledge, custom, mores, governments, social systems, philosophies and religions — all have undergone fantastic amendment. It has been

argued, and the argument is eminently plausible, that except the invention of fire nothing has happened to man of more importance than the industrial revolution. Nothing has brought about more constant and profound alteration in every aspect of his life. Were scientific method rigid and inflexible, technological knowledge would be impossible to handle. That is why tentativeness and the hypothetical spirit are applauded. Indeed, it is not too much to argue that the unique contribution of modern culture has been precisely this repudiation by science of final, unbudgeable judgments of the type that still seem to coerce respect in religion and politics. Elasticity, then, is a sign neither of flabbiness nor of starry-eyedness. It is a tool that alone is capable of adjusting to the changing demands of an expanding technology.

Values are no more exempt from the impact of technology than is scientific procedure. That is why it has been insisted throughout this work that the choice among values must be related to the practices of scientific method. That is why a democratic set of values must take its stand against dogmatism, not because it is nasty or intolerant but because it is inelastic: and inelasticity, the failure to adjust, is as fatal for ethics as for dinosaurs.

The other characteristics of scientific method are really corollaries of the first. Operationalism is the essence of experiment, since it insists that hypotheses must carry with them the methods for their justification or rejection. Without operations theories are meaningless. This would follow logically from the very use of hypothesis, as would the whole critical attitude. These corollaries also apply to anything called democratic. If truth is not revealed to a leader or to a class, then provision must always be made for criticizing the probable truths that are discovered and for trying out the hypotheses that are presented. If reliance is placed upon "the assemblage of unique qualities in all men," then reliance must also be placed upon devices whereby the sound elements in such an assemblage are developed and the unsound discarded.

POLITICAL DEMOCRACY

Too frequently discussions of democracy have the sound of an apologetic when they should ring with belligerency. Particularly is this the case if the treatment is a general one, dealing with democracy as a philosophic temper or a way of life. But there is nothing sentimental nor flaccid about using the term in this broader sense. There is nothing illegitimate about suggesting that democracy itself is a method rather than a fixed body of doctrine, a method that parallels in the social and moral field the attitudes that have been found effective in natural science. Democracy is as acceptable a label for philosophical description as many another. Nevertheless, it must be granted that both etymology and usage give the word a political flavor. It will be necessary to turn to this more familiar concept of political democracy and inquire into its assumptions, its techniques, and the relation it bears to democracy as a philosophic temper or a way of life.

To hold that the growth of individual personality through the realization of a person's legitimate potentialities and opportunities, is the criterion of the good state or society, is basic for political democracy. This is no more than a rephrasing of a premise that already has been proposed as a basic element in any system of human values: the satisfaction of the complex of biological and psychic wants that the human animal carries with him. This must be the core of any political theory that has traffic with the concept of democracy.

The word "legitimate" above indicates that there is a moral element involved in discriminating among the welter of elemental needs: the potentialities and opportunities for sadism, murder, or exploitation are scarcely included in the criterion for a good society. But moral, it must always be understood, refers to no more and to no less than the organized system of long-time discriminations and choices, the values, that socialized man has made. There

are massive moral assumptions underlying the concept of political democracy, just as there are with all political theories. Yet these premises about the ethical status of the individual personality are only a foundation, or a signpost pointing in a general direction. The political structure that rises, or the windings and detours that the civic road follows, are not completely controlled by them. For example, there have been various answers to the question: under what conditions can the individual's potentialities and opportunities, his growth and development, be best realized? Traditional liberalism, that is, the eighteenth and nineteenth century theories of political democracy, gave the answer in the ringing battle cry, Liberty, Equality, Fraternity, with the emphasis on liberty or freedom. Let men alone, free them from legal inequalities, allow them to grow naturally, and they would develop as a rational Nature intended.

The Laissez-Faire State: Historical Background

A thorough discussion of this interpretation of political democracy would require a history of political theory. But even if that can be ignored, there cannot be waived a mention of a few historical factors, for without them it would be enormously difficult to distinguish between a liberalism that must be regarded as old-fashioned and one that, with some confidence, can be called up-to-date.

That modern democracy is literally a revolutionary concept is familiar enough. Celebrated by three great political revolutions in the seventeenth and eighteenth centuries, the English, American, and French, a new economic class, the trading bourgeoisie, came into power, making its protests and demands. The protests were twofold: against the privileges of a landed aristocracy that had dominated Europe's economy from the days of feudalism to the coming of the age of exploration and the shattering force of the commercial revolution; and against mercantilism, the theory of

economic and political nationalism that accompanied the rise of the new states of Europe. The demands were those of an expanding class that needed political power to accompany and strengthen economic power; but these middle-class revolutions were principally protestant, an attack on the political economy of a squirearchy and of the new, provincially-minded nationalistic states. The first liberal-democratic state was one of reaction against existing government: it is no coincidence that *The Wealth of Nations* appeared in the revolutionary year of 1776.

Mercantilism may be easily described. Its economic assumptions were centered around the somewhat notorious concept of a favorable balance of trade. Starting with the frenetic worship of hard money — "bullionism" — the idea developed that a country becomes prosperous to the degree that it could pile up a surplus of gold and silver. Nations like Spain and Portugal, which found precious metals in their New World colonies, could get bullion directly; others like England, France, and Holland, which supposedly were not so lucky, had therefore to obtain specie through trade (not counting the acquisitions that came by way of seizing Spanish galleons at sea). Consequently, trade had to flow so that exports constantly exceeded imports. This was favorable, for goods were thereby exchanged for money. To this end each nation was geared. Manufacturing was directed, by the government, so that goods needed for export were available. Consumption was rationalized, by the government, so that imports of foreign manufactures would be discouraged. Foreign trade was regulated, by the government, so that by means of tariffs and subsidies a favorable balance could be maintained. Colonial affairs were in the hands of the state and so controlled that the mother country would receive either raw materials or precious metals from the possessions abroad, with the colonies, in turn, acting as powerful markets for the manufactures of the metropolitan area.

The economics of mercantilism was, however, only part of the

story. For the system was one of political economy, and the political phase, although not remembered as graphically as the spectacularly neat logic of trade, was dominant. This was the great period of European nation-making. The years from the fifteenth through the seventeenth centuries saw the building of the modern national state, specifically of the five imperial powers, Spain, Portugal, England, France, and Holland. A new political concept had been born. Mercantilism was its rationale. Politically the system was known as Statism, being so dubbed in France under the Glorious Monarch, Louis XIV, whose supreme goal was to magnify his empire. The familiar economic administration of Colbert was a means to that end. The same was true in England under the late Tudors and the Stuarts. Political economy was a device to strengthen the State. For instance, bullion was not simply a fetish to be worshiped Midas-like. It was the best way to pay an army and navy. Moreover, the control of specie through coinage was at the same time contributory to the expanding power of the sovereign. International trade and the development of a merchant marine meant also the growth of a navy. Prohibition of imports and development of home manufactures signified autarchy, the self-sufficient state, always necessary for war and patriotism. Similarly, the anti-alien laws, as of Colbert, were not only instrumental in excluding foreign merchants and artisans; they also helped in keeping alive an aggravated spirit of nationalism, likewise necessary for war. And colonies were for chauvinistic glory as well as for metals and markets. Finally, it will be seen that the imperialistic politics of seventeenth-century mercantilism are by no means out of date: pre-war Germany and Italy followed the formula to the last bitter letter. There is also a very respectable neo-mercantilist school in contemporary economics, one that sees in the growing industrialization of formerly backward and agricultural regions, like Asia, South America, and even Africa, a decline in foreign trade and the development of a kind of regional self-sufficiency.

Why should a growing bourgeoisie protest against such a political economy? Were not many, if not most, of the mercantilist regulations an encouragement to industry and commerce? Why laissez-faire? The answer is to be found in the strategy of power, for it must be understood that the class still in political control was the landed aristocracy. It had sacrificed many of its feudal prerogatives to the growing strength of the monarchy, but the "lords" of these new national states, the courtiers, were largely the national landlords. The treasure that poured into the state through the techniques of mercantilism, together with the power that came from it, accrued to this first estate as well as to the king. This was very clear in France, where the revenues of commerce were never enough to support the gilded court of a Louis XIV or XV. In England, the absence of magnificent extravagance was no index to the domination of a landed nobility that was to maintain its political control until late in the nineteenth century. It was against this burden that the traders strained. "Life, liberty, and property," the natural rights of the liberal revolutions, were fashioned into a mighty weapon: and the greatest of the three was the right to property. This was directed against royal caprice and the landlords, although it must not be forgotten that the third estate often joined hands with the monarchy, since a national sovereign no less than a middle class had to fight the semi-feudal order that was on its reluctant way out. A natural right to one's property, in this context of the demands of a new merchant group, had specific implications like these: the sanctity of contract, that is, the protection of private commercial arrangements from royal or feudal arbitrariness; the right to political participation, especially in matters of taxation, since through taxation property was appropriated by the state ("taxation without representation is tyranny" was an English, not an American, invention); a guarantee that a country's political economy be geared to protect new property interests such as those of the bourgeoisie. This last was the nub of the political protests

There was reason for the economic protests, some of the reasons being subtle, others not. Mercantilism, because it was political and nationalistic in direction, was a one-way philosophy. Its end was to maximize the state. In the course of such an endeavor, the minute regulations imposed upon industry and commerce might benefit the middle class, or they might not. In any case, they were designed for something else. As a matter of fact, the logical end of mercantilism would be a complete autarchy that would have put an effective stop to international trade. What was wanted, then, would be free trade, internationalism, competition. Not only would this expand foreign trade and so benefit the bourgeoisie, who, it must always be kept in mind, were a trading people; it would also prepare the ground, especially in a country like England that was already late in the eighteenth century taking the first of its giant steps in industry, for a coming industrial class. Laissez-faire was to provide a remarkable bridge between the commercial and industrial revolutions.

The Laissez-Faire State: Economic Postulates

This review of mercantilism has been necessary, since it provides the philosophical and historical background against which appeared the modern liberal-democratic state, with its political and economic laissez-faire. And a discussion of the laissez-faire state is required because it so often has pre-empted the concepts of liberalism and democracy, making difficult an objective scrutiny of the terms or any attempt to give them new content and direction. Finally, the importance of the whole topic for the present chapter, if not for the entire book, is to be found in its connections with the larger concept of democratic values, a concept that should help to provide social orientation for the whole philosophic enterprise.

It must be repeated that the liberal-democratic state was ushered in by revolution, even if — as with England in 1688 — it was "bloodless." The point of such repetition is simply that revolutions

are always against something. Thus, the politics and economics of the middle class revolutions in England, America, and France were those of protest, the political protests (centering around the theory of natural rights) being a reaction against the power of a squire class; the economic protests (focusing in the developing classical system of laissez-faire) being an attack on mercantilism. The use of natural rights and of laissez-faire political economy as revolutionary weapons were situational products and functioned in a context. Commonplace enough as such an observation may be, it is frequently overlooked, especially when these particular ideas are singled out for praise or blame. It is certainly no sign of economic sophistication, for example, to sneer at men like Adam Smith because their ideas may now have been taken over by very strange people indeed. In his time, Smith was a true economic revolutionary; in the twentieth century, the context of his system is totally different, which does not make laissez-faire true or false in general. This situational attitude is necessary in presenting the economic postulates of the laissez-faire state.

The words postulate or assumption are unusually appropriate here. It is not in the strength or weakness of its logical structure that laissez-faire political economy is to be understood but in its fundamental axioms. First, there is the famous maxim of the economic man. This has been stated in several ways; for example, economic man strives to satisfy his desires with the least effort; he naturally tries to get the most for the least; he always endeavors to buy in the cheapest and to sell in the dearest market. Or, as Adam Smith himself puts it:

> It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages. . . . Every individual is continually exerting himself to find out the most advantageous employment

> for whatever capital he can command. It is his own advantage, indeed, and not that of the society, which he has in view.[1]

What then? If each man pursues his own interest, and is let alone, he will automatically bring about the interests of all.

> But the study of his own advantage naturally, or rather necessarily leads him to prefer that employment which is most advantageous to the society . . . He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. . . . He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was not part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good.[2]

This second assumption is really a cluster. There is the quasi-metaphysical, sociological postulate of the invisible hand. It is the same postulate that helped to convince the Utilitarians later on that if every man strives for his own happiness, and achieves it, the greatest happiness for the greatest number must automatically ensue. A cosmic, or at least a social, invisible hand would take care of it.

Next, there is the economic assumption of free competition between individuals, plus the political assumption of government hands off. As Smith puts it:

> If in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many

[1] *The Wealth of Nations,* Book I, chapter 2; Book IV, chapter 2. Smith is being used here as the most clear-headed and readable of the laissez-faire economists. He was neither the first nor the last, but his book remains one of the most beautiful illustrations of the development of a system of political economy, because he makes his basic assumptions so clear.

[2] *Ibid.,* Book IV, chapter 2.

> people would crowd into it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of other employments. This at least would be the case in a society where things were left to follow their natural course, where there was perfect liberty, and where every man was perfectly free both to chuse what occupation he thought proper, and to change it as often as he thought proper. . . . Every individual, it is evident, can, in his local situation, judge much better than any statesman or lawgiver can do for him. The statesman, who should attempt to direct private people in what manner they ought to employ their capitals, would not only load himself with a most unnecessary attention, but assume an authority which could safely be trusted, not only to no single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who had folly and presumption enough to fancy himself fit to exercise it.[3]

Simple laws like these made laissez-faire a tight logical system. But the system was in no way insulated. It was a clear rationalization of the requirements of a commercial class which wanted freedom for expansion, specifically, freedom from the religious, feudal, and royal restrictions that blocked the path to economic and political power. "Economic man" was a protest against the "medieval man" who wanted salvation instead of profits. The "invisible hand" was a metaphysic of the market, promising that if the all-too visible hands of canon law, mercantilist controls, regal caprice, and landed arrogance were released, anarchy would not result: things would be taken over by a "god from the machine" with an affinity for business arithmetic. Competition, free trade, government hands-off were, similarly, assumptions of protest and promise. Trade between nations and between individuals would flow the right way, once the natural laws of economic movement were unconstrained, the right way being, clearly enough, the way of the bourgeoisie.

There is nothing illicit about rationalizing. Every individual does

[3] *Ibid.*, Book I, chapter 10; Book IV, chapter 2.

it and every class does it; without finding good reasons for being in the place they are, both nations and persons would be even more neurotic than we find them to be. The rationalizations of the seventeenth and eighteenth century middle class of Europe and America were, as rationalizations go, clean-cut and well integrated, replete with logic and free from sentimentalism. More than that, the rationalizing fitted in remarkably with another dominating pressure of the times, one that should receive more attention than can be given it here. This was the great Age of Reason. First of all, there was confidence in human reason. Man was pre-eminently a rational animal. Exposed to the truth, any "man of right reason" could be relied upon to make intelligent judgments. Secondly, there was the conviction that the universe itself was an intelligent system that could be understood by the man of right reason. For such understanding Newtonian mechanics was the model. In Pope's famous lines:

> Nature and Nature's laws lay hid in night:
> God said, *Let* Newton *be!* and all was Light.

The model of Nature was a system of simple mechanico-mathematical laws, such as those of motion and gravitation. The system could be understood by anyone with a knowledge of natural philosophy and, at most, of the calculus. But rationalism was appropriate for more than physics. All the elements of human experience could be similarly handled. Religion was to be a religion of reason — Deism. It was to stem not from revelation or Scripture, but from simple moral postulates. Literature could be approached *à la* Alexander Pope — and that was surely a mechanico-mathematical system. There was to be a social physics and a political physics. The classical system of political economy, thus, can be completely understood only as a rationalistic as well as a rationalized structure. Smith was the Newton of economics,[4] for he laid down simple laws:

[4] Adam Smith is being used as a symbol of this whole movement of a rationalistic social physics, not as its creator or its single prophet. Actu-

economic man, competition, the invisible (mechanical) hand; from them could be deduced a system as rigorous as any expected by the Age of Reason.

The Laissez-Faire State: Political Postulates

It will be remembered that the present discussion of the laissez-faire state began in an attempt to answer the question: Under what conditions can an individual's best potentialities and opportunities, his growth and development, be realized? The traditional liberal-democratic state gave to this basic ethical problem an answer that emphasized freedom and liberty. Let men alone, free them from legal inequalities, allow them to grow naturally, and they will develop as a rational Nature intended. In many circles the same verbal answer is still being offered. That is why it seems necessary to examine the political assumptions of laissez-faire, particularly if there is to be any effort to substitute one set of postulates for another.

To call the laissez-faire assumptions "negative" is to describe not to abuse them. They were clearly negative in the sense of what they denied, what they protested against. There was nothing vague about them as historical dissents; the system of pre-bourgeois political economy was repudiated specifically and deliberately. But, just as clearly, both the politics and the economics involved were vague in the positive sense of what would take place when the protests became effective. True enough, natural liberty would be substituted for mercantilist and feudal restrictions, and the invisible hand would proceed with the necesary adjustments. In a very significant sense, of course, all forms of liberalism, old or new, are negative

ally, of course, the French Physiocrats of the mid-eighteenth century gave us not only the phrase *laissez-faire, laissez-aller,* but also the central theory of a rational natural order (Physiocracy means "rule of nature"). Perhaps the best brief treatment of the philosophy of this period can be found in Carl Becker's *The Heavenly City of the Eighteenth Century Philosophers* (New Haven, Yale University Press, 1932).

and rightly so; they demand freedom from something, for example, from fear or from want. All liberalisms, however neo- or sophisticated they may be, must protest against the infringement of personal and civil liberties. Yet there still remains the enormous ethical problem: freedom *for* what as well as freedom *from* what. There still remains the question whether freedom is an end in itself or a means to some other end, and if so, what? These remain, without mentioning the even more critical problem that the "Inquisitor's Tale" of Dostoievski has captured in perhaps its final form: Do men really want to be free, or is freedom an intolerable burden that they immediately seek to fling off? Do they want to be secure rather than free, and are the two compatible?

Questions like these are undoubtedly too grave to be disposed of cavalierly in a chapter of a textbook. Nevertheless, the metaphysic of liberalism must be taken hold of at some point if the assumption of democratic values is to be maintained. There seem to be at least two places where such a hold is possible. One is to examine a little the conceptual orientation of the traditional liberal-democratic state, particularly the concepts of liberty and equality. Another is to inspect its negative orientation to determine (*a*) in what way must any liberal state be negative, and (*b*) the historical compulsions and limitations of the negative state. Moreover, to be consistent, the approach to these conceptual and historical claims upon the liberal philosophy should be by way of the instrumentalist method that has been emphasized so much in the preceding chapters.

That method, it must be clear by this time, deprecates the use of absolutes of any kind. Liberty and Equality, to mention no other, are concepts vital to the liberal-democratic state of any vintage, but they cannot be regarded as absolute in either meaning or application. For absolute, if it is actually definable, must refer to that which is unaffected by its context. Nothing in political life can be so regarded. The Jeffersonian definition of liberty is perhaps

as classic a statement of it as any: liberty means the absence of external restraint; the only restriction upon the individual should be that of his own capacities. But Jefferson, never an absolutist, recognized clearly that this concept of liberty was inevitably infringed by his equally classic definition of political equality — that the state recognize no distinction between individuals. Equality thus is a form of restraint upon the liberty of those who should be restricted only by their capacities. For example, the freedom to make a million dollars and to exercise, say, the legal power attached to the million would be incompatible with the equality of all men before the law. This dilemma Jefferson met by concentrating upon intellectual freedom, which, he argued, would not result in the impairment of another's freedom; the same could not necessarily be said of unrestricted economic or political freedom.

There is no need for subtleties to indicate that liberty is always qualified. The most orthodox of libertarian formulas insisted that freedom be unrestricted, except when it infringed the freedom of others. This, of course, puts it in the most intricate sort of social context. The most incorrigibly laissez-faire approach to personal activity would recognize traffic rules, customs of dress and etiquette, restriction of violence by law, state regulations in matters of birth and death certificates and marriage licenses, and a host of others. The fundamental axiom of democracy itself, that there be trust in the assemblage of unique qualities in all persons, demands modifications and restraints of liberty as it does for everything else, since these "unique qualities" are often in conflict, and fundamental compromise is necessary unless a democratic society become "poor, nasty, brutish, and short." However glorious, liberty has always been curtailed as other human interests have cut across it. Instead of being immaculate and undefiled by circumstance, the acutal realization of human liberty — and the degree of such realization has been an impressively large one — is determined by specific conditions in a specified space and time.

The traditional concept of political equality is just as clearly contextual and therefore just as clearly divorced from absolutes. Particularly is this so if the two concepts are put in juxtaposition. Liberty and equality (not to mention fraternity) are to be achieved together, according to the classic formula of liberalism. There is nothing wrong with the formula, providing that liberty and equality are not presented as unconditional claims. The classic absence of restraint, which is freedom, is certainly incompatible with the classic refusal to recognize distinctions, which is equality. Only when the two are allowed to fluctuate and reach an equilibrium, only when specific liberties are maintained and specific inequalities removed, can the formula balance. The various new bills of right now becoming prominent make this clear, for they speak about such things as freedom "from compulsory labor, irresponsible private power, arbitrary public authority, and unregulated monopolies . . . or the spying of secret political police," and about the right to "equal access to *justice in fact.*" These specific liberties and equalities would suggest that unqualified concepts, no matter how noble, are inoperable.

If there is to be any serious criticism of the laissez-faire political postulates it must focus on the ill-starred attempt to freeze certain politico-historical requirements, such as those of the middle class after the Commercial Revolution, and to make them unconditional axioms of metaphysics. Liberalism, of all political theories, has suffered the most from a glorious tradition. For that tradition was formed in pre-Industrial Revolution times, which means in times totally different from those of the first and second quarters of the nineteenth century. Relying on that tradition, the orthodox philosophy of liberalism, of freedom from governmental restrictions, came to be taken for granted. It became static and fixed, depending for its rationale on the admittedly honorific slogans of the eighteenth century. But the question about a laissez-faire state can never be, is it right or wrong in general? "That government gov-

erns best which governs least" may be an axiom for a particular government at a particular time; as an absolute dictum of politics it is meaningless. Absolutes are usually meaningless.

THE LIBERAL-DEMOCRATIC STATE: NEGATIVE AND POSITIVE

In any appraisal of liberalism, old or new, the historical background of the negative laissez-faire state must not be forgotten. There were good political and economic reasons for the protestant character of the seventeenth and eighteenth century revolutions, for the suspicion of a strong state dominated by anachronistic legal power. The tragedy of liberalism has been that this negative quality has persisted in its philosophy although the conditions that made it plausible have long since disappeared.

The conditions have disappeared, except in one area where this negative quality must at all costs be preserved. This area is that of personal liberty, the area of our own Bill of Rights. Here the classical argument, such as that of John Stuart Mill, is as effective as it ever was, even though in other spheres it sounds outmoded, not to say stodgy. That the government should keep hands off personal opinion and personal action until or unless that opinion and action infringe the liberties of others, is sound doctrine. The precise point where opinion turns into action and action into infringement, the point where, in Justice Holmes's famous formula, there is "clear and present danger" to the state, is a matter often of legal casuistry. But that is an affair of jurisprudence, not of politics.

Libertarian philosophy has always vetoed the assumption of infallibility, which alone justifies the blanket curtailment of civil liberties. Freedom of conscience, of intellect, of taste, of expression, of opinion, and of the expressive acts through which opinion operates, are still the negative aspects of liberalism that seem to be an inescapable and permanent core of the democratic state.

There is nothing absolutistic in the reaffirmation of civil liberties.

It is not because of some mystic right or metaphysical category that individuals must preserve them. Without freedom of opinion, there is no way of getting light on public issues and therefore no way for free inquiry to function. The very least that scientific method can mean in the social field is freedom of inquiry plus the publication and active communication of results. This is a necessary experimental condition; without it there is no place for valid political knowledge. The silencing of public discussion is, at best, an assumption of infallibility on the part of the silencer and provides therefore the soundest basis for persecution of any sort. Even a Rousseau fell victim to such assumed infallibility in counseling the proscription of recalcitrant minorities: his "general will" (in practice, majority rule) was omniscient. Perhaps the word "even" is out of place, for it may be there is nothing so intolerant as an intolerant majority.

Majority rule there must be in any democratic State. But majorities, as de Tocqueville feared, can be as oppressive, reactionary, and blind to new ideas as the most arrogant dictatorship, possibly more so, since dictatorships — by definition the rule of a minority — must at least try to placate the dormant power of the masses. The point, then, is that the liberal-democratic philosophy must still proclaim one great area of laissez-faire, that of civil liberties. Injunction against the state, hands off the individual, no government interference — these slogans are still dynamite when they are used to defend a Bill of Rights. And that defense must be the pragmatic one of keeping open the sources of political opinion and information.

But having said this, the liberal must go on to say that a general shift in emphasis from negative to positive has to be engineered if his philosophy is ever to outgrow the limitations and restrictions of a particular historical environment. It will be recalled that this whole discussion of traditional liberalism and of the laissez-faire state arose out of a question: Granted the premises of a demo-

cratic ethic — the growth of individual personality, the realization of a person's best potentialities — what political order can provide the conditions for that growth and development? One famous answer is the one we have been tracing: let men alone, free them from legal inequalities, allow them to grow naturally, and they will develop as a rational Nature intended. This would be the answer of the negative state.

In such a context, then, "positive" is to be understood as implying that it is not enough to let men alone. The democratic values cannot automatically be achieved; they do not rise up, phoenix-like, upon the mere removal of restraint. It is true that freedom from want and fear and oppression, and from the strangling of civil liberties, is a negative core that every form of liberal politics must build around. But a less oblique approach than that of hands off is required to reach a democratic society. An active and dynamic quality in political programs is necessary if, for example, man is to satisfy his basic physical and psychic needs, and if he is to avail himself of the power to be found in intelligent inquiry. He cannot achieve educational equality by being left alone, he cannot win economic security by being left alone, he cannot participate in the political, industrial, and cultural life of his society by being left alone. "Being left alone" is an idea that has had a narcotic effect on too many liberals. These assertions may seem dogmatic to some and tedious to others; in either case they require the itemizing and detail that the following chapter may provide. It is the switch from negative to positive that makes possible an inventory of the specific conditions a democratic ethic demands; without that shift there is too much of a temptation to improvise, too much reliance on the removal of restraints and too little attention to what will follow once the restraints disappear.

Human Rights: As Natural and Metaphysical

It is true that "the positive state" has a meaning that is ad-

mittedly distasteful, a meaning that would elevate the state to some supreme position, giving it the mystical character of an end in itself. No such intention is implicit here. The approach of Harold Laski — at least the Laski of 1925-31, the dates of the first and second editions of his definitive *Grammar of Politics* — is, in general, the present approach: The state, which must always function through a government, is one of a number of social organizations, that is, political pluralism; although possessing the most power it is by no means supreme, and the traditional concept of sovereignty, therefore, becomes much less clear or relevant. Furthermore, the concept of the state is basically an ethical one: [5] "The State is the end or purpose government is to secure . . . [It] is a public service corporation, for the interest of the consumer [and] controls the level at which men are to live as men." This creative approach makes the state a means to an end, the end being the realization of the democratic values. As a brake upon the state, Laski, along with the eighteenth-century political theorists, appeals to the familiar concept of human rights. But these rights are to be far different in both sanction and content from the natural rights, say, of our own Declaration.

The classic doctrine of natural rights does not have to be traced back much further than the Reformation. The doctrine grew out of the concept of the individual and particularly of the individual's private judgment and conscience; these were the prime contributions of the Reformation. In ancient society the individual had no claims which his state was bound to respect; he was a citizen, the creature of the state. And whatever rights there were in the Middle Ages were legal rather than metaphysical or moral; they were

[5] To be sure, Laski's approach to the state is complicated by the fact that even in the *Grammar* he also accepts the Marxist theory that the state is the organ for class oppression. These two theories, the "ethical" and the "realistic," seem to run parallel for him; at least there is little effort to fuse them.

specific grants, usually the correlates of duties, and were completely circumscribed by the political economy of feudalism. The work of men like Hooker, Grotius, and Pufendorf, in the sixteenth and seventeenth centuries, laid the foundation for the doctrine, the elaboration was made by Hobbes and Locke, and the eloquent summary was the work of Rousseau. The point here is not one of history, even though in the story of ideas the belief in natural rights affords one of the neatest examples of a theory which, despite its specific historical conditioning, was seized upon as the revelation of some eternal metaphysical system. The emphasis must be rather upon (*a*) the interpretation given to natural rights by seventeenth and eighteenth century rationalism, and (*b*) the shift in meaning that will preserve the political strength of the theory of rights, while sloughing off some of the historical accretions of a particular time and place.

No more concise or eloquent statement of natural rights need be sought than those familiar lines of the Declaration of Independence: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness." The whole philosophy of the doctrine is found here, and, in the next line, the social contract theory as well: "That to secure these rights, Governments are instituted among Men . . . " First, there is the vital maxim of all rationalism, the self-evident character of certain postulates or assumptions, called truths rather than assumptions. This was the approach that dominated the great Age of Reason of the seventeenth and eighteenth centuries. It made Deism the religion of reason, and, as was noted earlier, it made classical political economy a watertight system, as rigorous and trustworthy and as self-evident as the Newtonian mechanics. Then, there is the precise statement of the natural rights principle, which is clearly that these political claims of the citizen are original and innate. Even without the contention that

rights came directly from the Creator — since Deists like Jefferson and Paine and Franklin could read Nature for Creator — the proponents could still insist that men had rights just as they had arms or legs or reasoning powers. Men were not whole unless they were born fully equipped, and their standard equipment consisted of at least the rights to life, liberty, and the pursuit of happiness. Here is the final aspect of the doctrine, not only that men possess rights in general but that there are certain specific rights, to wit, the classical life, liberty, and property — the last being changed by Jefferson when he forced through his revolutionary amendment, "the pursuit of happiness."

To call this approach to rights metaphysical means simply that the traditional formula implied the existence of rights as in the nature of things. There was nothing tentative or hypothetical about them; they were as existential and as essential as any other natural human attribute. Whether men like Paine and Jefferson actually thought so is hard to determine. Their words are unequivocal in affirming this metaphysical and rationalistic quality to rights, but it must not be forgotten that these men — and the same was true of their English predecessors — were superb politicians and successful revolutionists. The doctrine of natural rights was an enormously efficient revolutionary weapon; it was the bludgeon of the Whigs and the whip of the middle class. To give it metaphysical, not to say divine, sanction was, it can be argued, the height of political shrewdness. That this was honestly in the minds of the natural rights theorists is impossible to settle. But that the theory of rights was a rationalization as well as rationalism is unquestionable. This was the point brought out in the earlier discussion of the laissez-faire state. The rights to life, liberty, and property were the very kernel of the demands of the bourgeoisie: the guarantee of (political) life against the power of the crown and the landed aristocracy, the security of (economic) liberty against the philosophy of mercantilism, and the (legal) right to estate or

property or contract against royal caprice or feudal law. Once more, there is nothing wrong in this; the whole argument will be seriously misunderstood if it is regarded as cynical or debunking. On the contrary, the point is that the classical theory of rights is a very complex matter and that, for a complete picture, its metaphysic must be given historical perspective.

The rejection of natural rights presented in such a garb of absolute and innate has been almost unanimous. Political scientists of every complexion have repudiated it. As early as the beginning of the nineteenth century, with men like Austin and Bentham, there was growing suspicion of the doctrine, and the reasons are clear enough. For one thing, the notion of an individual existing prior to any social or political system came to be regarded as the myth it actually was. Equally mythical was the subsidiary idea of a society or state being formed by compact between autonomous and asocial beings. Growing knowledge in the field of sociology and anthropology made fantastic the belief that social status is artificial and secondary, and so the picture of a rational Nature bestowing natural rights upon rational, innocent man tended to become more and more clouded. For another thing, the historical context of natural rights was so unmistakable and the doctrine showed itself to be so felicitous an expression of what a particular class wanted at a particular time, that it lost strength as a metaphysical absolute the more it gained strength as a political weapon. It is in the latter guise that the concept of rights can still be employed, by even so unorthodox a thinker as Laski, to justify the moral demands of the citizen.

Human Rights: As Ethical Concepts

The criterion of "natural" is not one that can be summarily and permanently banished, however. It remains in ethics if not in metaphysics. It is a symbol of the cry for better things: for better laws, better social orders, better economic systems. It comes to mean

normal and right instead of original and innate. A natural order, a natural right, a natural law, is postulated because men seek to find some sure basis for the things that ought to be. If they can point to Nature, then their demands seem more solidly grounded. Here in Nature is the way things should be. It is true that such a standard may be a creative fiction; granted that there is no natural this or that in the nature of things and that, if there were, no one would ever know when it had been reached. Still, natural has a significance that certainly was not exhausted by eighteenth century theorists. The significance is basically that of a dissatisfaction with existing conditions, a discontent with mere description and the colorless technique of literal statement, and a stretching forward to ideals and goals. Men ought to be regarded as equals, at least in the opportunities open to them; they ought to be fraternal with one another, they ought to be free from oppression and from being pushed around: ought to be even if things like these are now conspicuously missing.

It is in this ethical sense, then, that natural rights can still be employed. They are, to quote Laski again, "a set of demands which, if realized, help individuals realize their best powers." They are not natural in the sense of being a recovery of some condition of pristine artlessness nor metaphysical in the sense of fixed and final. But they are crucial as an insistence upon the ethical significance of the individual and as a check against unrestricted and totalitarian exercise of the power of the state. For rights are recognized by the state, not created by it. The very character of the state, as Laski and others point out, depends upon the rights that it does recognize. Thus, the concept of rights still functions in the same general way as that envisaged by the seventeenth and eighteenth century democratic philosophers, as a brake upon unwarranted power, especially in the area of the civil liberties. But the specific content of rights and the precise manner in which they operate have undergone distinct amendment in what may be called the neo-liberal approach.

There is nothing of political atomism in the modern acceptance of human rights, nor any pretense of talk about The Individual as something sacred and aloof, just as there must be no pretense about Society or The State as something untouchable and majestic. The notion of political rights is an elliptical way of affirming what is nothing less than the whole democratic ethic, that opportunity be furnished for the development of every man's powers. Rights are a political recognition of the ethical concept that each individual is a functioning, developing entity with definite potentialities. As Roscoe Pound puts it, "Natural rights mean simply interests which we think ought to be secured; demands, which human beings may make which we think ought to be satisfied. It is perfectly true that neither law nor State creates them . . . it is fatal to all sound thinking to treat them as legal conceptions . . ." [6]

Where, then, is the difference between this kind of approach and the more classical doctrine of rights? The shift from metaphysical to ethical that already has been suggested is one difference; another is the turning from qualities which are absolute and unchanging to those which are flexible and developing. Rights do not constitute an immutable and ideal system, but instead are claims that vary according to their usefulness. The interests and demands which Pound mentions are elastic; therefore rights are elastic. The absolute character of the older doctrine may really be said to have been its basic defect, for it froze the interests and demands of a particular historical class into the standard pattern for a universal politic. This is not to say that "life, liberty, and the pursuit of happiness" do not have perennial appeal. They do. But their power and their appeal must depend on the interpretation given to them by each generation.

This does not imply constant improvisation. On the contrary, the history of Western Europe has clearly indicated a core of

[6] *The Spirit of the Common Law* (Boston, Marshall Jones, 1921), pp. 91-92.

specific rights, of detailed interests and demands, that may well be a permanent part of any sound political system. The Bill of Rights of our own Constitution, the English Bill of Rights, the French Declaration of the Rights of Man, all contain the itemized and particular conditions necessary, if not sufficient, for the full development of an individual's powers. The first amendment to the Constitution contains the most prominent: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances." Rights like these — the traditional civil liberties — have been hammered out of a fiery political history: there is nothing secret about their origin, and nothing indecisive about their validity. When they have remained unfulfilled, disaster has resulted. The specific guarantees of our bills of rights are the long product of historical experimentation; they are liens placed upon us by an exacting political heritage. But history did not stop with the eighteenth century. The classic rights must be preserved, but they must be expanded. They have to adapt themselves to new industrial and technological conditions just as the religious rights of a Reformation had to be molded by a Commercial Revolution into economic and political claims. Just as the rights to liberty and property would have been meaningless to a feudal economy, so a right to work, to health, or to education might have seemed unintelligible, or at least unnecessary, to the framers of our own Bill of Rights. They are not unintelligible or unnecessary today.

A New Bill of Rights

The Four Freedoms are a good introduction to a new Bill of Rights; to the established freedom of opinion and of religion, they add freedom from fear and from want, thus recognizing the insecurity and frustration found in a world of depression and war,

and setting up an ethical protest against them. There is nothing secret about a new catalogue of rights. A number of proposals have been made in recent years, two of them of noteworthy significance. One is the eloquently simple statement in the March 10, 1943, report of the National Resources Planning Board:

> 1. The right to work, usefully and creatively, through the productive years.
>
> 2. The right to fair pay, adequate to command the necessities and amenities of life in exchange for work, ideas, thrift, and other socially valuable service.
>
> 3. The right to adequate food, clothing, shelter, and medical care.
>
> 4. The right to security, with freedom from fear of old age, want, dependency, sickness, unemployment, and accident.
>
> 5. The right to live in a system of free enterprise, free from compulsory labor, irresponsible private power, arbitrary public authority, and unregulated monopolies.
>
> 6. The right to come and go, to speak or to be silent, free from the spyings of secret political police.
>
> 7. The right to equality before the law, with equal access to justice in fact.
>
> 8. The right to education, for work, for citizenship, and for personal growth and happiness; and
>
> 9. The right to rest, recreation, and adventure, the opportunity to enjoy life and take part in an advancing civilization.

Another list is the one drawn up by President Roosevelt in his message to Congress, January 11, 1944:

> The right to a useful and remunerative job in the industries or shops or farms or mines of the nation;
>
> The right to earn enough to provide adequate food and clothing and recreation;
>
> The right of every farmer to raise and sell his products at a return which will give him and his family a decent living;
>
> The right of every business man, large and small, to trade in an atmosphere of freedom from unfair competition and domination by monopolies at home or abroad;

The right of every family to a decent home;

The right to adequate medical care and the opportunity to achieve and enjoy good health;

The right to adequate protection from the economic fears of old age, sickness, accident, and unemployment;

The right to a good education.

To some persons, rights like these may seem gratuitous, to others downright mischievous. But before any decision is made, what are rights anyway? It was pointed out a few paragraphs above that the natural rights of the seventeenth and eighteenth centuries have been in great measure discarded because (*a*) they were metaphysical, that is, it was asserted that in the cosmic nature of things, at least of human things, rights were an innate part of a man like his arms or brain; men were unable to discover such metaphysical entities; (*b*) they were inflexible, in a society which was constantly changing; (*c*) they were stated too clearly in the language of a single age, when men wanted to hear newer accents. Yet rights as such have not been discarded. They have become (*a*) ethical instead of metaphysical, that is, they are claims, not to say protests, that men make against the conditions which inhibit full development of human powers and abilities; (*b*) they have come to be understood as elastic; therefore (*c*) they adjust to new environments, such as that of a technological society, and are stated in more languages than one. In other words, an instrumentalist doctrine of rights is an attempt to implement the democratic values and assumptions. Those values, it will not be forgotten, assume that man must be allowed to satisfy his basic needs, physical, mental, and social; that he is to be treated as an end and not as a means to an end, for instance, to an end like Society or The State; that his liberty and equality depend on the degree to which he is given the opportunity to realize his potentialities and to develop his capacities.

This is why a new bill of rights must be specific as are the ones

suggested above. They itemize conditions under which alone the democratic slogan of liberty, equality, fraternity can become more than eloquent words. Those conditions are inevitably economic in nature, since the social security and cultural privileges about which they center are achievable only through economic manipulation. Liberty and equality become high-lighted and intelligible when they are placed against a background of such bills of rights. A state that restricts the uncontrolled use of economic power, achieves security, and removes economic and political as well as legal inequalities is achieving whatever liberty or equality is possible. Liberty cannot simply mean being let alone, and equality is more than a watchword. For example, equality becomes a caricature if it implies some absolute identity of treatment, but it seems relevant when it suggests something like the following: the removal of institutional inequalities and special privileges; the repudiation of a condition in which the claims of certain individuals are satisfied only at the expense of another's claims; the assumption that however much men may differ, their proper station in life can be learned only through experimentation, not through an *a priori* class structure. This kind of implementation demands in some measure the positive or service state that modern political scientists have been talking about. Positive, however, is not to be interpreted as signifying an unauthorized elevation of the state beyond all else; on the contrary, a state is positive when it tries to effect methods that will conserve and enlarge the individual, for it is the individual who must represent the moral orientation of politics. A negative state, at least in the twentieth century, is one that assumes individuals need no attention, which is the same as assuming that they can be safely neglected. Such a state has no need for a new bill of rights.

There is one other matter regarding rights that cannot be overlooked. It is what Harold Laski has called the civic equation, one between rights and duties. The word "duty," unfortunately, has been so criminally abused in fascist theorizing that it leaves a bad

taste in the mouths of many persons. Talk about a sacred and mystical Duty to The Leader or The Race or The State has been comic when it has not been unutterably vicious. Nevertheless, duties or functions (which is perhaps a more acceptable word these days) are the correlates of rights. This is based upon the clear premise that just as society is meaningless as an abstraction divorced from the individuals composing it, so the individual is not some philosophical abstraction independent of society. I do not exist for the state; but neither does the state exist only for me. I must contribute if I am to expect privileges. I have no right to do as I like. To be specific, the right to education assumes that the citizen give a substantial measure of his improved talents to the service of others and not simply use his state-provided training for purposes of self-aggrandizement. The right to leisure presupposes an attempt to use that leisure constructively and intelligently; it is not an encouragement to a truancy from thinking. The right to health is hollow unless the healthy citizen uses his body for something more than a clothes rack. And so on. These allegations are not meant to be utopian or sentimental. They are based on the sensible observation that social man must be expected to give as well as to take. Rights become arbitrary when the equation does not cancel out; there is then the danger of a violent and irrational swing back to Duty as a substitute for rights. One-way traffic is not feasible when the basic assumption of all social science is mutual interaction between individuals and social groups.

It has been argued here that a new Bill of Rights is in effect a skeleton economic constitution for a democratic political system. Therefore, attention must now be turned to the more technical economic programs and directions which appear necessary to give substance and form to these ethical claims called human rights. However modestly such an approach may be made, it is one that cannot be neglected if there is any validity to an instrumentalist

handling of social philosophy. Politics and ethics may supply the acceptable ends of a democratic philosophy, but since ends and means are reciprocal, means must be attended to with no less interest: those means are necessarily economic in nature.

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Chapter Ten

ECONOMICS AND A DEMOCRATIC SOCIETY

BEFORE THE MAIN SUBJECT OF this chapter is taken up, a resumé is in order.

It will have been evident by now that there has been little attempt in this book to make watertight areas of ethics, politics, or economics. In terms of orientation and of strategy, or of ends and means, distinctions can with profit be drawn between them, as when ethical goals are used to criticize social techniques, or economic procedures to point out the limitations of political claims. But the assumption consistently has been that the values man professes are of little importance unless they can be implemented, and that his technologies, if undirected, can be nothing but lunatic and fatal. That is why fusion rather than separation must be encouraged, and why a term like democracy can perhaps be used to cut across the fields involved. For the same reason there has been no consistent effort to distinguish carefully between social philosophy and social science. They both are significant or insignificant to the extent to which there is union between purpose and practice, and to the degree, furthermore, to which is employed the experimental method, which alone can discriminate legitimate human inquiry, whatever it be called, from myth, magic, or dogma.

This last is also the reason the democratic way is being put forward as a series of assumptions and hypotheses rather than as an absolute creed. There has been no insistence that democracy has been a brilliant success or that it must inevitably be. Optimism of the type that relies on inevitability deserves the scorn that has

been heaped upon the now notorious doctrine of unavoidable progress which was so intoxicating to the eighteenth and early nineteenth centuries. The question that must be asked is the modest but pertinent one: what are the alternatives to a democratic ethic? It is the question that Abraham Lincoln posed when he inquired: "Why should there not be a patient confidence in the ultimate justice of the people? Is there any better or equal hope in the world?" The alternatives to such patient hope are evident enough: trust in some kind of élite leadership, whether of brute power, or of alleged intellectual and infallible competence, or of religious charisma. That "the world has suffered more from leaders and authorities than from the masses," as John Dewey has said, seems to be a political maxim of no small weight. The malice of unchecked leadership, however élite, and of a total power that corrupts totally, should not have to be argued in post-fascist years, although fascism itself was but one more example of a long historical tragedy, the tragedy of authoritarianism. The alternatives to a genuinely democratic way of life have been almost a synopsis of universal history, the occasional pages of promise serving only to accentuate the others. Neither novelty nor success can recommend them as alternatives.

This admission of the tentativeness of the democratic postulates is in no sense apologetic. Actually, the problem of whether democracy has been a brilliant success is juvenile, since man has never experienced more than a taste of political and civil liberty. Democracy as an over-all attitude that includes economic, educational, and cultural elements paralleling the political has never been more than a promise. The assumption that those who receive the consequences of public policy in any field, say, industry or education, should have the power to approve or veto those general policies (certainly the minimum that can be demanded under the label of democracy) is suspect, not to say subversively revolutionary, in the minds of many who at the same time render lip-service to democratic elections.

The further assumption that the truth is discoverable only in the assemblage of unique qualities in all men, as was argued earlier, is, again, a provisional claim that must yet seem frightening to all adherents of the infallibility of a person or a class: those adherents may well number among them the great majority of men. To say, therefore, that the democratic philosophy is a complex of admittedly hypothetical claims is not to say that it is wavering or tepid. For those postulates are as experimentally radical, and as provisional, as were the new mathematical and physical postulates that in the last few generations have transformed our entire outlook upon the natural world.

Consider, for instance, the revolutionary implications of the democratic premise that there are untapped human abilities the use of which would enormously extend man's powers in every field. There is the same evocative quality in this as in assumptions in physics about new sources of atomic energy. Both are experimental, but certainly not apologetic or fantastic. The minimal use of this democratic belief about the human powers that have not yet been touched has already paid vast dividends: the talents for political leadership and economic planning which have emerged from the labor unions, co-operatives, and consumer groups during the war, the technical competence for military affairs which blossomed in the most unexpected places, the scientific and artistic abilities which have arisen whenever popular education has been extended. These are but tokens of the prodigious forces that are still unleashed. The democratic assumptions are neither impertinent nor diffident.

The implementation of a democratic ethics and a democratic politics requires, however, more than promises, no matter how eloquent. Above all there is required an analysis of the economic operations which alone can give meaning to the democratic hypotheses. Political economy can no more be divorced from social philosophy than a law court and legal machinery from a bill of rights. To be consistent with the general orientation followed

here, economic analysis must rest heavily on the plans (hypotheses) that have become an essential part of all modern economic engineering.

ECONOMIC PLANNING

At the very outset it must frankly be recognized that the word planning has been provocative of one of our severest semantical blocks. Responsibility for this stoppage of meaning and thinking is not easy to locate; possibly it is one of the prize performances of political maneuvering! But no discussion of present-day economics can get very far before it collides with a stereotype that covers, not only planning and planners, but communism, socialism, collectivism, fascism, and bureaucracy, as well, together with all their less polite adjectives. Or, of equal semantical futility, planning is overwhelmed by being confronted with free enterprise, "the American way," individualism, and their respectable subtitles. This way, of course, lies impotence to the point of madness. An arrest of action, not to say of understanding, can be the only effect of word magic like this, assuming that the confusion is a sincere one.

This embarrassment about a short, familiar word, placing it in the category of older and more foreign terms like bolshevism, or even anarchy and nihilism, is rather unusual. All of us are constantly "planning" something—a party, a trip, a marriage, a life, or a life insurance. But when the planning becomes economic and political there is a grating into reverse gear. The kind of intelligent foresight that is accepted in every aspect of life becomes then malicious and dangerous, a sign of political unsoundness. That there is this confusion and suspicion about the term and what it allegedly represents is unquestionable. Particularly is there suspicion in the American mind about who is to do the planning and for what ends. It must be added, however, that since the summer of 1945, when the British Labour Party took over the government of England, the words planning and even socialism have possibly lost some of

the shivery quality they used to have. After all, the United States now finds itself in a world dominated by various degrees of collectivism, which may or may not mitigate our chronic allergy to certain words. The following pages cannot be expected to allay these suspicions, but we can at least make an attempt to define the purposes and the limits of economic planning, and to discover on what premises the concept of planning depends.

The Basic Assumptions of Planning

The phrase "outrageous hypotheses" has been used (as by Robert Lynd) to symbolize possibly unorthodox suggestions in social science. Whether the following assumptions are outrageous or not will be a matter of taste. But it is a matter of necessity not of taste to put down and make explicit the bases for any general point of view.

1. *That it is possible for human intelligence to intervene decisively in the course of human affairs.*

The implicit assumption of laissez-faire political economy, which still commands the allegiance of so many men, was precisely the contrary of this. Paradoxically enough, the Age of Reason lost confidence in human intelligence to the very degree to which it elevated the rational laws of a reasonable Nature. Thus, the natural laws of political economy and the automatic action of economic men would take care of everything through the almost supernatural intervention of invisible hands. Man's rational direction was not needed. This laissez-faire assumption is accepted by no other significant human enterprise. The triumph of scientific control over blind force is everywhere applauded as the very basis of man's life. Deliberate attempts to co-ordinate conflicting elements instead of allowing them to be turned over to an invisible hand is indeed *the* human axiom. The present assumption is no more than the recognition that human intelligence must function in political economy as it does in all other areas of problem-solving.

2. *That planning is a way of solving problems, not a completely predetermined program.*

This second assumption is the simple recognition that human intelligence or reflective thinking is an experimental process: it grows in practice. Instead of implying some rigorous scheme that is to be straight-jacketed upon society, planning should be regarded as a method of attack upon economic problems, as a technique of approach. There may be present certain large objectives but it is in the day-to-day revisions and amendments that economic and political hypotheses, like any others, get their strength and operational significance.

3. *That man has demonstrated his ethical incapacity to handle an unplanned technology.*

The tragic gap between morals and technology which is the very root and definition of the social problem can never be closed until there is an intelligent attempt to control the economic system so that it makes some ethical sense. Up to now man has found his technological culture too much for him; he is overwhelmed by the onrushing, planless economic machine that the Industrial Revolution has conjured up. It is not being theatrical to say that unless man can make sense out of his technical accomplishments — sense in terms of the heritage of values that he has preserved — the story of Frankenstein may well prove to be the theme song of a declining culture. Up to August 6, 1945, a statement like this would probably have seemed dramatic but unconvincing. But the dropping of an atom bomb on a Japanese city removed the Frankenstein legend from the realm of fiction. Man has now conjured up a jinn that can destroy its master — totally, as the most conservative scientist would admit. One more war is all that will be necessary. So, man will *have* to control his technology and direct it toward peace, something he has yet to learn, or he is finished.

4. *That, therefore, planning is forced upon man by changing economic and technological conditions, and that it can be resisted only at the risk of a complete collapse of present-day culture.*

This assumption seems so important that it deserves extended treatment.

Why Planning is Necessary: Historical Background

That the following discussion will be regarded as a recitation of commonplaces is to be hoped. For the change from a pre-industrial to a post-industrial culture, what some have called the most profound change ever registered upon human experience, must be assumed to be a familiar item in man's knowledge about himself and his history. Unfortunately, the knowledge has been often verbal rather than visceral; it has made little impression on human emotions and less upon the economic and political stereotypes. There is what Lewis Mumford has called a "pseudomorph," a cultural hangover or lag: man's institutions and mores have lapsed far behind the pace set by technology, and the social passwords that gave him entrance to the mysteries of eighteenth- and early nineteenth-century political economy have lost their magic without being discarded. To give an abrupt illustration, and one that will have to be documented presently, modern culture for a century (for at least three quarters of a century in the United States) has been becoming corporate and collectivistic in character, not only economically and politically but in terms of communication, education, scientific and artistic accomplishments, to mention only a few fields; yet the slogans of individualism, of economic and political atomism, have never been as formidable as now. By corporate and collective is not meant necessarily an increase in governmental control of business and industry, although, as economic conditions become more specialized and complex, that control will inevitably increase, whatever be the platform of any American political party.[1] But there can be private as well as public collectivism, for example,

[1] *The Development of Collective Enterprise* by Seba Eldridge and Associates (University of Kansas, 1943), is an excellent and sober report of present American "collectivism."

that represented by monopoly capitalism. However obvious these contentions may be they need to be substantiated.

The first point at which the laissez-faire talismans might refuse to function was well understood by Adam Smith himself when he wrote his oft-quoted line: "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices."[2] In 1776 these informal proto-cartels were perhaps mischievous rather than sinister, yet their budding "conspiracies" and "contrivances" were already setting the course for an unavoidable wreck of the most precious laissez-faire doctrine, that of the beneficence of free — which is to say unplanned — competition. Combinations in restraint of that competition, conspiracies to reduce output and contrivances to raise prices, presented an unsurmountable dilemma: if unregulated, they were the very negation of the prime laissez-faire premise of competition in a free market; but if regulated (and only government would be powerful enough to do the regulating) there was a literal end to the equally basic assumption of the invisible hand and of government hands off. The future was to demonstrate that laissez-faire capitalism would frankly throw overboard Smith's fears about conspiracy and make it instead, through monopoly agreement and regulated production, the very cornerstone of late nineteenth- and twentieth-century economy.[3] There can be little argument about the emergence of monopoly capitalism in the last hundred years or about the meaninglessness of a free market economy under it.[4]

There can also be little argument about the incompatibility of

[2] *The Wealth of Nations,* Book I, chapter X, Part II.

[3] However, it can be argued — as John Maurice Clark argues in his article on Monopoly in the *Encyclopaedia of Social Science* — that the growth of industrial monopoly did not constitute a problem in England until the 1830's and '40's when the railroads were the first to enter the arena of "big business."

[4] See *infra,* pp. 309-313.

the conditions surrounding the birth of laissez-faire theory with those developing after the industrial revolution had made its impact. It must be remembered that, although classical political economy received its greatest development in the opening quarter of the nineteenth century, it was conceived more than a generation earlier as a protest against one of the manifestations of the commercial revolution, that is, mercantilism, and as a rationalization of the demands of a new economic and commercial class, the bourgeoisie. In other words, the philosophy proposed by men like the Physiocrats and Adam Smith was adapted to trade, to the phenomena resulting from an age of exploration, an age of nation-building and colonial imperialism, and an expanding international commerce. It was also adapted to the beginnings, but only the beginnings, of a machine economy. As originally formulated, the classical economics was not concerned with large-scale industry and certainly not with the phenomena of monopoly capitalism. Yet the tragedy was that the principles of an economic system devised for one kind of culture, largely commercial and non-technological, were carried over into the nineteenth and twentieth centuries where they could be applied only in a distorted and procrustean way. The result has been an intellectual hangover, almost fatal in its complications.

A few simple comparisons should point out the incredible changes that were inaugurated by the industrial revolution. These data will refer to Great Britain, which presented the clearest picture of the early phases of the new technology. First, there was an unprecedented upsurge of population. "The most striking fact about the Industrial Revolution, if we look at it as a chapter in the history of men and women, is the rapid rate at which the population grew. Within this period [1760-1830] the population of England nearly doubled itself."[5] "Before 1751 the largest decennial increase, so far as we can calculate from the imperfect ma-

[5] Hammond and Hammond, *The Town Labourer: 1760-1832* (New

terials, was 3 per cent. For each of the next three decennial periods, the increase was 6 per cent; then between 1781 and 1791, it was 9 per cent; between 1791 and 1801, 11 per cent; between 1801 and 1811, 14 per cent; between 1811 and 1821, 18 per cent."[6] In actual figures, the population of England and Wales went from 6,736,000 in 1760 to 12,000,000 in 1821 and to nearly 18,000,000 in 1851.[7] In itself such a phenomenal growth was not automatically a problem, but the growth was in no sense uniform. It was in and to the new manufacturing cities that the people swarmed. Industrial Lancashire went from 672,000 to 1,052,000 in the twenty years following 1801; in 1774 Manchester had 41,000 inhabitants, but 187,000 in 1821; Liverpool grew to 118,000 from 77,000 in the period 1801-1821; and Birmingham from 73,000 to 146,000 between 1801 and 1831.[8]

Numbers by themselves do not necessarily present an economic problem, although it must be evident that when cities mushroom as they did in the first decades of the nineteenth century in England, when population doubles and trebles and concentrates in great industrial slums, when manufacturing is transformed from a domestic economy to the discipline and routine of a factory employing hundreds and thousands of workers, when an urban proletariat comes into being for the first time since the days of Rome — then quantitative changes inevitably become qualitative. Of course, in an important sense numbers even by themselves must tend to contradict a strictly laissez-faire politics. Pure bigness, even without its obvious implications, presents an insurmountable challenge to

York and London, Longmans, Green, 1917), p. 4. This book is one of a series by the Hammonds that constitutes an authoritative (but dismal) chronicle of the Revolution.

[6] Toynbee, *Lectures on the Industrial Revolution* (New York, Humboldt, 1884), pp. 87-88.

[7] Douglas, Hitchcock, and Atkins, *The Worker in Modern Economic Society* (University of Chicago Press, 1923), p. 112.

[8] Hammond and Hammond, *op. cit.*, pp. 4-5.

the negative state. The very administration of huge industrial Coketowns (as Lewis Mumford calls them) demands more and more government interference. Problems that did not exist before the days of technological urbanism suddenly emerge and must be grappled with, such as sanitation, police protection, transportation, water supply, health. Municipal "hands off" becomes meaningless when cities swell almost overnight to hundreds of thousands of dwellers, or it becomes unbelievably vicious. Which, as the Hammonds and others point out, is what actually happened, for "England was still a country with very little government from the center, and almost all the local responsibilities, health, housing, education, police, that are now subject to strict inspection and control, were left to the unchecked discretion and pleasure of magistrates and borough rulers. Parliament and Government knew nothing about this side of life." And the result?

> Perhaps the best way to describe the new towns and their form of government would be to say that so far from breaking or checking the power of circumstances over men's lives, they symbolised the absolute dependence and helplessness of the mass of the people living in them. They were not so much towns as barracks: not the refuge of a civilisation but the barracks of an industry . . . It would be as reasonable to examine the form and structure of an Italian *ergastulum* in order to learn the wishes and the character of the slaves who worked in it . . . "In one place we found a whole street following the course of a ditch, because in this way deeper cellars could be secured without the cost of digging, cellars not for storing wares or rubbish, but for dwellings of human beings. Not one house of this street escaped the cholera. In general the streets of these suburbs are unpaved, with a dung heap or ditch in the middle; the houses are built back to back, without ventilation or drainage, and whole families are limited to a corner of a cellar or a garret." Life in such a town brought no alleviation of the tyranny of the industrial system; it only made it more real and sombre to the mind. There was no change of scene or colour, no delight of form or design to break

> its brooding atmosphere. Town, street, buildings, sky, all had become part of the same unrelieved picture. The men and women who left the mill and passed along the streets to their homes did not become less but more conscious of that system as a universal burden, for the town was so constructed and so governed as to enforce rather than modify, to reiterate rather than soften the impressions of an alien and unaccommodating power. The town was as little their own as the mill. For the working classes had no more control over their own affairs outside than inside the factory.[9]

This is no more than a sample of the dreariness, not to say the horrors, of the English industrial city of the early nineteenth century. Lewis Mumford has painted in lurid colors the picture of this subhuman Coketown, a picture that must be looked at in its full canvas to be appreciated.[10]

The failure of laissez-faire theory in the face of the quantitative forces that began to overwhelm it is one illustration of the present thesis, the tragic futility of holding fast to an economic philosophy designed for other times and circumstances. But, as already suggested, quantitative changes do become qualitative. It is not so much the number of people and the size of cities as the life led by the people in the cities that must judge the omnicompetence of the invisible hand. What were the results of confidence in the unplanned working of beneficent economic laws? Every literate person must by now be acquainted with what happened to working men, women, and children upon the full advent of the industrial revolution. Few historians, whatever part of the political spectrum they may reflect, from the violet to the reds, have failed to show the ghastly and incredible exploitation that accompanied the coming of the factory. On this the literally hundreds of books written about the revolution agree. To select illustrative material becomes a problem just because of the wealth of it.

[9] *Ibid.*, pp. 38-46.

[10] See his *Technics and Civilization* (New York, Harcourt Brace, 1934), and *The Culture of Cities* (New York, Harcourt Brace, 1938).

For example, what about the children? It must be understood at the outset that the sources of information for the following material, whether it be in books by the Hammonds, Marx, Mumford, or others, are chiefly the reports of government committees of investigation. Unless this is realized the extravagance of some of the statements may seem fantastic.

> A vivid picture of life in these prentice mills was given before the 1816 committee by a certain Mr. John Moss, governor of the workhouse at Preston. (Report on Children in Manufactories, 1816—Peel's Committee, pp. 178-85.) For a year, from February 1814 to March 1815, he had been master of about one hundred and fifty parish apprentices at a cotton mill at Backbarrow in Lancashire. Most of these children came from London, a few from Liverpool. The London children came at ages ranging from seven to eleven, the Liverpool children came from eight to fifteen: all were bound till they were twenty-one. Their regular working hours, Saturdays included, were from 5 a.m. till 8 p.m., and with the exception of half an hour at 7 a.m. for breakfast, and half an hour at 12 for dinner, they were working continuously the whole time . . . On Sundays, always some, and sometimes all, were employed from 6 a.m. till noon cleaning machinery. Those who were not so employed were supposed to go to church, three miles away.[11]
>
> The fourteen or fifteen hours' confinement for six days a week were the "regular" hours: in busy times hours were elastic and sometimes stretched to a length that seems almost incredible. Work from 3 a.m. to 10 p.m. was not unknown; in Mr. Varley's mill, all through the summer, they were from 3:30 a.m. to 9:30 p.m. At the mill, aptly called "Hell Bay," for two months at a time, they not only worked regularly from 5 a.m. to 9 p.m., but for two nights each week worked all through the night as well. The more humane employers contented themselves when busy with a spell of sixteen hours (5 a.m. to 9 p.m.)
>
> It was physically impossible to keep such a system working at all except by the driving power of terror. The overseers who

[11] Hammond and Hammond, *op. cit.*, pp. 146-147.

gave evidence before Sadler's Committee did not deny that their methods were brutal. They said that they had either to exact the full quota of work, or to be dismissed, and in these circumstances pity was a luxury that men with families depending upon them could not allow themselves. The punishments for arriving late in the morning had to be made cruel enough to overcome the temptation to tired children to take more than three or four hours in bed. One witness before Sadler's Committee had known a child, who had reached home at eleven o'clock one night, get up at two o'clock next morning in panic and limp to the mill gate. [Clocks were almost unknown in laborers' homes.] In some mills scarcely an hour passed in the long day without the sound of beating and cries of pain. Fathers beat their own children to save them from a worse beating by other overseers.[12]

[In the mines] "Chained, belted, harnessed like dogs in a go-cart, black, saturated with wet, and more than half naked—crawling upon their hands and feet, and dragging their heavy loads behind them—they present an appearance indescribably disgusting and unnatural." (Children's Employment Commission, First Report, Appendix: Part II, 1842, p. 75.) Their hours [in the early 1800's] were from 2 a.m. to 8 or 10 p.m. every day except Saturday. In busy times they never saw the daylight from Sunday to Saturday afternoon.[13]

It would be unseemly to the point of the grotesque or even the obscene to inquire what happened to the health, the morals, and the minds of these victims of the industrial revolution. The fortunate shortness of their lives saved a lot of statistical data. But this glimpse of what was done to their minds, the minds of free-born Britons, may be revealing. These were answers given to an investigating commission:

William Turner, age 12—"Don't live in England. Think it is a country, but didn't know before." John Morris, age 14—"Have heard say that God made the world, and that all the people was drownded but one; heard say that one was a little bird" . . . Edward Taylor, age 15—"Do not know of London."

[12] *Ibid.*, pp. 159-160.

[13] *Ibid.*, pp. 174, 176.

"The devil is a good person. I don't know where he lives."
"Christ was a wicked man." [14]

Perhaps it would be superfluous to continue the dreary story. If this is the way children were treated, how could adults have fared? The records are clear; the picture is the same. But now what had laissez-faire economics to say about conditions like these, perhaps as evil as any that (peaceful) man has ever visited upon man? True enough, there were humanitarian protests, and there were the beginnings of bitterly resisted factory legislation — itself a contradiction of government hands-off; and there was also, as Mumford shows, a masochistic self-exploitation on the part of many factory owners: the fanatic worship of the machine drove them to the mills along with the children, a hypnotic doctrine of work often chaining the owner to his factory as it did the worker. But, by and large, the answer that political economy proffered was one that indeed made it the "dismal science." The natural laws of economics being what they were, nothing at all could be done about this fantastic perversion of human life. There was, for example, a rigid fund set aside by capital for the payment of wages; hence any increase in workers must by an iron law reduce their wages, reduce them to the bare subsistence level. Nothing could be done about that — it was a natural law, just as natural as the outstripping of food by the increase in population. And nothing could be done about that mathematical disproportion either, except through the mercies of the Four Horsemen of the Apocalypse whose visitations were deplored by men like Malthus even though they were so unpreventable. Any attempt on the part of government or of well-meaning philanthropists to meddle with these omnipotent economic laws could only bring worse visitations.

[14] Karl Marx, *Capital* (Kerr ed.), vol. I, p. 285, footnote. It should be remembered that the footnotes of Marx's work are almost all quotations from English government reports, containing the results of his prodigious researches in the British Museum rather than his economic theories.

> To remove the wants of the lower classes of society is indeed an arduous task. The truth is, that the pressure of distress on this part of a community is an evil so deeply seated, that no human ingenuity can reach it. Were I to propose a palliative; and palliatives are all that the nature of the case will admit; it should be the total abolition of all the present [types of government relief and charity]. To prevent the recurrence of misery, is, alas! beyond the power of man. In the vain endeavor to obtain what in the nature of things is impossible, we now sacrifice not only possible but certain benefits.[15]

The hard thing to realize is that these worshippers of an unplanned political economy were tragically sincere. Worship of a majestic economic system seemed to prevent sympathy, at least of the operational kind, and to paralyze action. Things must be let alone, or they would get even worse. One of the most dreadful passages in all English writing is very possibly these sentences from Andrew Ure,[16] dreadful because they are unquestionably ingenuous and unfeigned. This is how he saw the working children:

> They seem to be always cheerful and alert; taking pleasures in the light play of their muscles, enjoying the mobility natural to their age. The scene of industry, so far from exciting sad emotions in my mind, was always exhilarating. It was delightful to observe the nimbleness with which they pieced the broken ends, and to see them at leisure, after a few seconds' exercise of their tiny figures, to amuse themselves in any attitude they chose, till the stretch and winding on were once more completed. The work of these lively elves seemed to resemble a sport, in which habit gave them a pleasing dexterity. As to exhaustion by the day's work, they evinced no trace of it on emerging from the mill in the evening, for they immediately began to skip about any neighboring playground, and to commence their little games with the same alacrity as boys issuing from a school.

Laissez-faire was indeed a powerful glass to discover such a sight!

[15] Malthus, *Principles of Population,* 1798 ed., Chapter V.

[16] *Philosophy of Manufacture* (London, 1835), p. 301.

Why Planning is Necessary: The Modern Scene

But these conditions were far away and long ago, it will be said. Factory legislation and regulation of child and female labor, the spread of trades unions and of minimum wage laws, of social reform and political action, have made these early abuses things of the past, lurid mementos of an awful day. This would certainly be true. Equally true would be the corollary that the correction, or rather, the mitigation of these eocene perversions made meaningless the claims of an unplanned economic system operating through inexorable natural laws. For improvement came only through government interference with the workings of these untouchable laws, and the slogans of laissez-faire lost their relevance.

The primitive maltreatment of the laborer and his child in the early nineteenth century retreated, however, only to give way to still more impressive phenomena — unemployment, the business crisis, economic insecurity, imperialistic war — that made the slogans seem almost fantastic. The classical ideas of the omniscience of economic men, of a negative state endowed only with police duties and entirely divorced from the regulation of business, ideas of free, non-monopolistic competition and of the beneficent power of invisible hands, came to seem like relics of some prehistoric culture. Yet the laissez-faire catchwords are still an essential pattern of the intellectual fabric, at least in America. They can still win political elections, remove men from administrative office, and label as "red" any suggestion that these phrases have been left far behind by the march of modern industry. For the barest knowledge of American history would disclose that since the Civil War a persistent theme of our political life has been "trust-busting." From the hectic years of railroad consolidation and the establishment of the regulatory Interstate Commerce Commission, through the Sherman Anti-Trust Act, the anti-monopoly political and newspaper campaigns, the Populist movement, muckraking, the Progressives under Teddy Roosevelt and his big stick, down to Wood-

row Wilson's New Freedom, the Federal Trade Commission and the Clayton Act, there has been national realization of the extending concentration of economic power, and a growing resentment against it. This, it must be remembered, was not the resentment of radicals or "crackpots" or New Dealers, but one found in all the political parties and in almost every phase of the national consciousness.

Economic history is not the present theme, however, and information like this must be taken for granted. It is the contemporary American scene that is so much more impressive as an illustration of the almost entire collapse of the economy acclaimed and rationalized by the laissez-faire writers. Statistics on economic concentration have been abundant, and far from sentimental. One of the landmarks was the definitive work by Berle and Means, *The Modern Corporation and Private Property* (1932). It traced the growth of the American corporation up to the depression years, and concentrated on two major aspects of the corporate structure: the pyramiding of economic power in the hands of a few giant corporations made possible by means of stock control and stock manipulation; and the separation of corporate ownership from control. Corporations could technically be owned by stockholders, but that was a legal fiction having almost nothing to do with direction of policies or management of business. For example, eighty-eight per cent of the two hundred largest non-financial corporations studied by Berle and Means were dominated either by management or by minority stockholders.[17]

But this earlier work of Berle and Means and of many other writers has been brought up to date and summarized with spectacular detail and authentic documentation in one of the most significant papers ever published by the United States government, the "concentration of economic power" report of the Temporary National Economic Committee in 1940-41. In the final document

[17] *Op. cit.*, p. 94.

President Roosevelt stated the general conclusion arrived at when he wrote that "private enterprise is ceasing to be free enterprise and is becoming a cluster of private collectivisms." [18] Here are some of the figures:

By 1935 one tenth of one per cent of the corporations studied owned fifty-two per cent of the assets of the reporting corporations, and less than five per cent owned eighty-seven per cent of the total assets. In terms of income and profits, the one tenth of one per cent earned half of the total, with less than four per cent of the corporations earning eighty-four per cent of the national corporate income.[19] In addition, "the physical assets of the 200 giants constituted about 60 per cent of all those held by non-financial corporations, about half of the total industrial wealth, or about a fifth of the total national wealth." [20] Putting it another way, some seventy-five thousand persons, making up no more than about six one-hundredths of one per cent of the nation's population, own fully one half of all the corporate stock held by individuals in the country. [21] Another analysis indicates that "in 1923 a handful of 1,026 monopoly corporations got 47.9 per cent of all corporate net income. In 1929 a handful of 1,349 monopoly corporations got 60.1 per cent of the net income. In 1937 a handful of 1,294 monopoly corporations got 61.9 per cent of the net income. These monopoly corporations represent less than three tenths of one per cent of all corporations." [22]

What figures like these mean in human terms is well summarized by Kingsley and Petegorsky: [23]

[18] Final Report of Temporary National Economic Committee, March 31, 1941 (77th Congress, 1st session, Doc. 35), p. 12.

[19] *Ibid.*, p. 11.

[20] TNEC Monograph No. 11, p. 4.

[21] TNEC Monograph No. 29, p. XVII.

[22] Lewis Corey in *Common Sense,* February, 1944, p. 67.

[23] *Strategy for Democracy* (New York, Longmans, Green, 1942), pp. 126-128.

These 200 industrial giants represent, in terms of assets and earning power, somewhere between two-fifths and one-half of American industry. Over eight per cent of their stock is owned by thirteen family groups. This is a very large part of American industry for thirteen families to own, but they control through that fact a very much greater share. Indeed, three families — the du Ponts, the Mellons and the Rockefellers — control through their holdings some eleven per cent of the assets of the two hundred corporations. These three groups alone dominate fifteen of the largest industrial giants in the nation . . . [For example] the Rockefeller sphere of influence shows even more strikingly the possibilities in minority control. The Rockefeller family owns less than twenty per cent of the stock in the Socony Vacuum Oil Company, The Ohio Oil Company and the Standard Oil Companies of New Jersey, Indiana, and California. Yet because the remainder of the stock is widely distributed, the family "seems to be in effective working control" of these five corporations with aggregate assets of nearly $4,500,000,000. (TNEC Monograph No. 20, Chapter VII.). . .

A new aristocracy has emerged whose powers far exceed those ever possessed by the landed proprietors of the past. Yet there are many striking parallels. The landed aristocrats perpetuated the power of their class through the institutions of primogeniture and entail. By these means the great estates were kept intact and they therefore constituted the center of the first attack by Jefferson in his efforts toward an egalitarian democracy. The financial aristocrats of the present day have similar devices: trusts, family holding companies, estates, by means of which beneficial ownership and voting control are separated. [Add the recent family 'foundations.'] . . . About half of the large share-holdings of individuals in the two hundred corporations intensively studied for the TNEC were represented by trust funds, estate and family holding companies, and the study revealed "the importance of these instrumentalities for perpetuating the unity of control over a block of stock held by an individual or members of a family." (*Ibid.*, p. XVI.)

What the figures mean in terms of labor control is this:

> Approximately half of the nation's workers are employed by 1 per cent of the nation's employers, while at the other end of the scale, half of the nation's employers utilize only 4 per cent of the nation's workers. Thus the actions of 1 per cent of employers in respect to such matters as wage conditions have as much effect upon our national economy as the actions of the remaining 99 per cent of employers.[24]

Not even the farmer, the bulwark of American individualism, has remained untouched. "The independent farmer is slowly being reduced to peasant status. In 1880, 25.6 per cent of all the farms in the country were being operated by tenants; by 1930 that figure had risen to 42.4 per cent . . . By 1929, one half of all the farmers in the country produced 90 per cent of all the farm products sold or traded." [25]

The menace of these figures is not simply their bigness; it is, for one thing, the fact that they themselves and their implications are so largely unappreciated. As Lewis Corey says, "the old words are still used — free enterprise and competition, the free capitalist system — but they usually express desperate wishful thinking or cover monopoly practices that are the opposite of free enterprise and competition." [26] Another menace is the use to which such pyramided control has been put. The present section is concerned with showing the necessity of economic planning. To be sure, for many years there has been constant planning by huge collectivistic monopolies such as the ones just sketched. But as it has been understood here, economic planning has a purpose not confined to the profit motive. This is not a sentimental or utopian or even moralistic protestation: it is a cold-blooded realization that in an economy of abundance such as is now possible, private collectivism must result, and has resulted, in decreased, scarcity production.

[24] *Ibid.*, p. 133.
[25] *Ibid.*, p. 137.
[26] *The Unfinished Task* (New York, Viking Press, 1942), p. 163.

There is nothing novel about such a statement. The evolution of a free market economy followed precisely the course that Adam Smith foreboded. "Conspiracies against the public" and "contrivances to raise prices" became the order of the day because although the competition applauded by Smith may have been the life of trade, it was by no means the life of profit; and it was the profit to be found in production for exchange rather than for consumption that came to be the very definition of the laissez-faire system. The aim of business was to be profitable; indeed such a contention will still attract the allegiance of most men. To be profitable means that the spread between costs and prices must widen, and the widening is most easily accomplished through maintenance of a suitably high price level. But the most elementary student of economics will know that the best way to keep up prices is to limit supply, to produce less. In fact, this is one of the prime purposes of monopoly, not to say of all business. "Under existing economic arrangements, most enterprises must *normally* restrict output in order to maintain solvency," writes one of America's most respectable economists.[27] This is what so impressed Thorstein Veblen when he detected a fundamental incompatibility between, in his terms, business and industry; the aim of the former is to make profits whereas that of the latter is to make goods. Veblen predicted a deadly struggle between them; it has turned out that the business or profit direction of economic enterprise has all but swallowed the technological or productive drive. Putting it in more familiar words, modern business, particularly as it is expressed in the form of monopoly capitalism, still operates under the concept of a scarcity economy, not because of some quaint anachronistic bias but because scarcity production is the best way of keeping up prices and profits; yet the technical resources of this nation, or of any other industrialized economy, clamor for an abundance

[27] Professor Sumner Slichter, *Modern Economic Society* (New York, Henry Holt, 1931), p. 5.

economy, one of almost unlimited productive capacity. Such a contention also requires documentation.

America's capacity to produce and to consume has provided a fertile source of research for almost a generation. This research has not been the work of subversive elements or "New Deal crackpots," but has been connected above all with the eminently conservative and respectable Brookings Institution. For example, there were the two definitive studies published in 1934 on *America's Capacity to Produce*[28] and *America's Capacity to Consume.*[29] The writers take pains to point out that they are not concerned with theoretical maximum production but with "practical results under conditions of operation with which we have had actual experience."[30] And they discover that even in the great boom year of 1929 the American industrial machine was producing at only eighty per cent of capacity, $93,000,000,000 instead of $135,000,000,000. "If this 20 per cent of our resources not utilized could have been brought into production, it would have added goods and services to an amount one fourth as great as the total which we were already getting from the operations of those years"[31]—some $15,500,000,000. This increased production could have brought the 16.4 million families below the $2000 income level up to it.[32] "Other investigators, starting from the point of serviceability rather than vendibility, put the loss at more than twice this figure. Indeed, Harold Loeb estimated that we were failing to utilize up to two-fifths of plant capacity and that we had the technical resources to produce an average family income of $4370 a year. (*Report of the National Survey of Potential Product Capacity,* 1935)."[33]

When we turn from a boom year to the depression period the figures become astronomical. These are the estimates of Lewis Corey:

[28] By Nourse and Associates. [29] Leven, Moulton, and Warburton.
[30] Nourse, p. 23. [31] *Ibid.*, p. 416. [32] *Ibid.*, pp. 429-430.
[33] Kingsley and Petegorsky, *op. cit.*, p. 136.

> In the ten years 1930-39 the American people suffered a loss of $250,000,000,000 in income that they might have received if prosperity had not broken down. We might have produced $250,000,000,000 more in goods and services if not for the inability to use all available economic resources. These depression losses were three times as great as the total national income in 1940. A part of the losses would pay to wipe out urban and rural slums, provide every American family that needs one with a new home, and leave $200,000,000,000 for other uses. The magnitude of depression losses may be measured in another way: they were two-fifths greater than the estimated $150,000,000,000 money costs of our war to destroy Hitlerism.[34]

In normal and abnormal times — the difference between them being one of economic dramatics rather than of theory — we throw away a prodigious productive capacity that is desperately needed; for that our fantastic ability to produce can be matched by consumer demand is also attested to by the Brookings Institution. In a summary fashion this is the conclusion: such vast potential demands still remain unfulfilled that it is not possible under present conditions to produce more than the American people are likely to consume.[35]

The sacrifices of production demanded by a profit economy are not lessened even in a war crisis. Perhaps the dreariest and most frightening aspect of America's experiences in the months leading up to Pearl Harbor was the apathy of monopoly industry in the face of proposed profit restrictions.[36] This is a little-known story, one that has been given no publicity comparable to that which narrated the sins of labor. But if there ever was a sit-down strike during a national emergency it was the all but traitorous refusal of industry — aviation, aluminum, steel, automobile conversion, and many others — to undertake war contracts unless and until normal

[34] *Op. cit.*, p. 232.

[35] Leven *et al.*, *op. cit.*, p. 127.

[36] See, for example, *Business as Usual* by I. F. Stone (New York, Modern Age, 1941).

(that is to say, abnormal) profits were guaranteed. Once more, this is not the opinion of critics, but, as in Stone's work, one that is carefully documented by reports of public hearings before Congressional committees.[37] The fear of making too many things is a congenital fear that is never absent from what some are pleased to call a laissez-faire economy of free enterprise.

It must be evident, even from such a bare recitation of figures as in the foregoing pages, that what is called private enterprise today has little resemblance to that described by the eighteenth- and early nineteenth-century economists. This is trite enough, yet the words still used, such as free enterprise, competition, laissez-faire, and the like, give no indication of the fantastic changes from the economy that Adam Smith knew. As a matter of fact, no writer on economics today, however opposed to over-all planning he may be, has dared to argue that, left to itself, private enterprise will automatically produce abundance and guarantee fair distribution. Writers like Walter Lippmann, John Chamberlain, Eric Johnston, Wendell Willkie, to select men who are avowedly although intelligently conservative in their economic orientation, agree that talk of complete government hands-off is a wistful if not a mischievous nostalgia. For example, Lippmann's "good society" is one in which government takes a strong hand in controlling monopoly so that there can be an exercise of free competition and a relatively free market. The point is simply that some kind of political planning has come to be accepted by even the upholders of individualism in political economy. It is accepted grudgingly, to be sure. But the fear of Statism has begun to seem less serious than the fear of the depressions and unemployment that have been the accompaniments of monopoly capitalism for more than a century and that may well prove to be its destroyer. Government has been used to save the system of free enterprise, as in the dark days of 1933-34,

[37] *Ibid.*, especially Part II and Part III, chapter 2.

and the adherents of the system have not forgotten (or forgiven) it. Consequently, whether it be manipulation of fiscal policy, or government spending on public works, or a guarantee of low prices through subsidies, or some other formula that is being prescribed to save free enterprise, the economic doctors are insistent upon using the government to underwrite their prescriptions.

A further point, however, is that despite this piecemeal and rather sullen acceptance by the right-wing experts of some political planning, awareness of even that acceptance has not yet percolated through to the public consciousness. No better evidence of this is to be found than in the institutional save-free-enterprise-and-the-American-way advertisements that have flooded the newspapers, magazines, and radio for the past few years. Advertisers know very accurately what the public expects. And what the public expects seems to be the tragic misrepresentation of the present issue in terms of total planning vs. no planning. (Hence the astounding popularity of Hayek's *Road to Serfdom.*) That is a palpably false issue. That some degree of political planning is necessary — the experimentalist thesis of this section and chapter — is admitted in the most respectable circles. But this does not mean that the following specific suggestions would also be admitted.

SPECIFIC ECONOMIC PLANS

There are several over-all ideas that should be stated or restated at this point before any specific economic proposals are suggested. One is the general way in which the term, planning, is understood here. It rests, of course, on the assumptions presented earlier. In the light of these assumptions, planning is "the intelligent control of economic activities, forced upon man by his present failure to reconcile traditional ethical and political concepts with a technological culture." But at least one important element is missing from this definition, the direction of the control. For there always has been economic planning of a sort. Intelligent control has

been indeed a part of the definition of capitalism itself. Planning in the controversial sense, however, refers to something else, and not simply to the rôle that government plays. It refers to the end or aim of this intelligent direction of economic processes. Thus there should be added still another assumption to the earlier ones, *that the purpose of planning is the realization of the democratic values.*[38]

Another summary statement would recall themes that have recurred through all these chapters. One is to the effect that in philosophy, means must be discussed as well as ends, that ethical goals must be kept close to the social, economic, and political techniques that alone give them power of fulfillment. A second is the reliance on experimentalist thinking as a way of solving problems. Instrumentalism, the use of intelligent inquiry, must try to be specific, because problems are always specific, in economics or any place else.

This is why there will be little traffic in the subsequent section in "isms." Specific economic problems can never be solved by hurling capitalism at socialism or individualism at collectivism. These are words, and words as such do not help very much in handling economic and political difficulties; on the contrary, they introduce their own particular problems, those of semantics, which often make us worse off than we were before. But, of greater importance, these abstract concepts that have occupied so much of the thinking in political economy have been doctrinaire in character. That is to say, in both manner and program they have been put forth as ready-made answers prepared in advance. Any disagreement with doctrine has been fatal, whether the doctrine has been free enterprise on the one hand or class struggle on the other. Technology cannot be kept functioning by exhortation or exorcism, or by reiterating

[38] Some of the sociological aspects of democratic planning have been developed in a recent work of Karl Mannheim, *Diagnosis of Our Time* (New York, Oxford University Press, 1944).

slogans. As Clarence Ayres has said, it is our problem to keep the economic machinery running; it cannot be kept running by verbal manipulation. Therefore, the planning proposed here is not a doctrine which can be pushed aside by doctrinal opposition alone to statism or bureaucracy. The repudiation of a doctrinaire attitude must be a corollary of anything that is experimental in character.

Finally, just as there was an earlier presentation of the basic assumptions or philosophy of planning, so here there should be a statement of its general economic objectives. Without them planning tends to become itself a doctrine and a panacea.

The Objectives of Planning

1. *To produce more.* Figures on America's capacity to produce have already been given. Behind this objective of productivity is the possibility of an expanding rather than a contracting economy, of an economy of abundance instead of one of scarcity. On technological grounds — that our machinery and intelligence *can* produce appreciably more goods and services; and on economic grounds — that consumer demand is potentially available to handle that expanded production, such an assumption is conclusively justified by the most orthodox of analysts. Even talk of 60,000,000 jobs (this figure has now — autumn of 1946 — been passed) and an annual production estimate of $200,000,000,000 by 1950 is no longer looked upon as wild when it is realized that for 1944 our gross national product was better than $196,000,000,000, with a national income some $30,000,000,000 under this. However, on political or power grounds, there are massive barriers to this objective of a vastly increased productive capacity. A contracting economy, where technology succumbs to business and production to prices, is one most congenial to the profit objective in economics — unless, of course, it lasts too long.

It is this point that should make celebration of the peaceful use of atomic energy premature. There have been a spate of argu-

ments recently to the effect that the power-technology relations of the world have been so altered that all present economic calculations are worthless. Without question, the employment of atomic energy for industrial purposes, when it arrives, will outmode all our present figures about productive capacity. Capacity will be fabulously and unbelievably expanded. But will it therefore benefit the common man? That depends. It depends, to put it over-simply, on whether the power is controlled by monopoly or by forces interested in the common man. To say that of itself atomic energy has outmoded present discussions of economic power is as naïve as were the expectations ushered in by the industrial revolution. Henry George phrased the problem in his usual eloquent way:

> At the beginning of this marvelous era it was natural to expect, and it was expected, that labor-saving inventions would lighten the toil and improve the condition of the laborer; that the enormous increase in the power of producing wealth would make real poverty a thing of the past . . . It would not have seemed like an inference; further than the vision went it would have seemed as though [one] saw; and his heart would have leaped and his nerves would have thrilled, as one who from a height beholds just ahead of the thirst-stricken caravan the living gleam of rustling woods and the glint of laughing waters. Plainly, in the sight of the imagination, he would have beheld these new forces elevating society from its very foundations, lifting the very poorest from anxiety for the material needs of life; he would have seen these slaves of the lamp of knowledge taking on themselves the traditional curse, these muscles of iron and sinews of steel making the poorest laborer's life a holiday, in which every high quality and noble impulse could have scope to grow.[39]

It would be almost obscene to substitute for that vision the actual conditions that were effected by the industrial revolution. Instead of steam engine, read atom, and the point will be made.

2. *To distribute better.* The data on distribution are just as spec-

[39] From the two opening pages of *Progress and Poverty.*

tacular as those dealing with production, for they provide tragic proof that not only is our production far below our technical power, but the things we do succeed in making go to only a fraction of the people. To illustrate this observation, "in the year 1935-36 nearly a third of our income recipients took in less than $750. Twenty-seven million of them, or two-thirds, had incomes under $1500. And for contrast, the aggregate incomes of the top one-half of one per cent equalled those of the bottom thirty-two per cent."[40] Further, this distortion of income has a direct relationship, as the TNEC points out, to property ownership. In 1935, persons with incomes of $5000 or less depended for only 13.6 per cent of their incomes on property ownership, whereas income from property accounted for 78.6 per cent of the incomes of persons receiving $100,000 to $500,000; 94.2 per cent of those in the $500,000-$1,000,000 range; and 98.5 per cent of the income of literal millionaires.[41] From a United States government committee this is an acid commentary on the good old American adage of work-and-get-rich. But to suggest a more pleasant alternative, it has been estimated by a variety of conservative American economists that were our productive capacity used fully and distributed equitably, an annual income of almost $5000, on the basis of a 40-hour five-day week, could be guaranteed every worker.

It is not, however, on ethical or "sentimental" premises alone that fairer economic distribution depends. Certainly a democratic ethic, such as is being proposed in this work, would demand it; but the most selfish and realistic approach to economic analysis must recognize the enormous potential purchasing power that today lies almost untouched. When allegedly hard-boiled American Chambers of Commerce scoff at "furnishing milk for Hottentots," (or for poor Americans) they are scoffing at the very cornerstone of the Chambers — more and better customers. "Modern industry

[40] Kingsley and Petegorsky, *op. cit.*, p. 140.
[41] TNEC Monograph No. 4, 1941, p. 48.

depends upon mass markets and these can be provided neither by the affluent one-half of one per cent at the top nor by the penniless masses at the bottom . . . In the long run the industrial machine must stall for lack of consumer purchasing power . . . This is the most glaring contradiction in our economic system today. For that system destroys the market upon which it feeds."[42] Nothing moralistic or starry-eyed about that!

3. *To integrate intelligently.* This is where planning emerges with a peculiar appropriateness. Despite the paeans addressed to the omnicompetence of laissez-faire, economic society is, and has been since the industrial revolution, flagrantly unsystematic. It resembles nothing so much as a highly-developed organism without a central nervous system. The aimless contradictions that result are glaring enough when once they are presented. Consider the failure to utilize the productive capacities of a nation; the distorted distribution of the national income, distorted ethically and economically; the anarchy of a competition that is not competition and of a free market that is not free; the fatalistic acceptance of periodic depressions that wipe out more economic wealth than the costliest war and that drag the entire national economy to the brink of violence and revolutionary collapse at almost periodic intervals; the imperialistic competition between nations that helps to create war every generation. These, no less than the plumbing and the tooth paste and the shining automobile and the "highest standard of living in the world," need to be remembered in appraising our pride in economic planlessness.

There are, of course, causes profounder than economic anarchy that help to produce these paradoxes. These causes point to something more positive, more vicious, and more ruthless than the outworn magic of invisible hands. But the very least that can be expected as a major objective of political intelligence is an attempt to orchestrate the elements of economic life. The thinness

[42] Kingsley and Petegorsky, *ibid.*

and the discords that undirected economic activity has yielded are tribute, at least in part, to the confident inattentiveness of economic men. The alleged psychology of economic man — take care of number one and nature will take care of the rest — can hardly compel our entire allegiance; if nothing else is granted, the fact that man is an organizing creature as well as a splendid anarchist will surely be admitted. As a political or social animal, his experience shows that deliberate co-operation, integration of efforts, attempts to forecast, to harmonize and adjust conflicting interests, are as appropriate to economics as they are anywhere else. If planning is based on the assumption that human intelligence has a place in solving economic problems, there is no escaping the corollary that rational direction must supplant the frantic improvisation so typical of much of our national and international economy.

Problems and Techniques of Planning

We have sketched so far the basic assumptions and the general economic objectives of planning. Next there must be some consideration of what planners propose to do, and how and why. A technical and controversial field like this must be approached with caution and some diffidence, yet it cannot be neglected if social philosophy is to keep its feet on the ground. No pretentious blueprint is about to be unrolled here. The discussion will focus on the agenda that are being considered in responsible circles. However, no two itemized lists would agree on the major economic problems that call for planning. The following is no more than an eclectic and far from novel sample of what the items might look like. The order of their arrangement is entirely arbitrary.

1. *A "mixed" economy.* In line with the disinclination for doctrinaire economics that was confessed in a preceding section there will be little interest here in presenting the problem of capitalism-or-socialism, or individualism-or-collectivism. That problem, as a general economic problem, is fictitious, since (*a*) great blocks of our

present economy already have become collectivized in one form or other, and (*b*) the most extreme form of socialistic theory would still leave untouched much of economic life. Thus, there is a wide marginal band, not a clean line of cleavage, between capitalism and collectivism; and within that band there are a multitude of specific difficulties that demand *ad hoc* treatment and that are not at all helped by a "bloodless battle of the categories." This is not to say that planning is neutral so far as there are general philosophical directions implicit in choosing between a completely directed profit economy and one oriented to the values of a democratic ethic; nor that it is sheer extemporizing with no recognition of leading principles. Once more, the either-or, black-white disjunction is a temptation that must be resisted.

The phrase "mixed economy" has become popular in recent years in the work of such men as George Soule, Stuart Chase, Bruce Bliven, Max Lerner, Lewis Corey, and others; however, the particular way in which it is used here does not necessarily depend on any special formula for the mixture. It is a phrase that is useful in calling attention to the many-sidedness of the economic structure and in indicating that the structure is not a monolith. It is useful above all in suggesting that a pluralistic approach be taken to economic problems, what the editors of the *New Republic* have called a "partnership" principle. This pluralism "rejects the idea that there is some 'one way' which will be a panacea for our economic ills. The day of the dogmatic capitalist, the dogmatic socialist, the dogmatic communist, the dogmatic single-taxer, the dogmatic anti-trust enforcer, and even the dogmatic planner, is over." [43] The concept of a mixed economy, particularly, the idea of a partnership between government and private enterprise, is a realistic way of attacking contemporary difficulties, but if it is proposed as an inevitable and permanent solution there is danger of

[43] "Charter for America," a *New Republic Supplement*, April 19, 1943, p. 540.

inducing a kind of economic schizophrenia. And future trends may so dilute the mixture that it has little potency.

The question of a mixed control at least of war industry was not an academic one in this country. War production forced something like 25 per cent of American productive capacity directly into government ownership. The figures are illuminating:[44] up to the autumn of 1945 the government owned 70 per cent of our aluminum capacity, 96 per cent of magnesium production, 10 per cent of steel, half of the machine-tool production facilities, 90 per cent of aircraft production, 80 per cent of synthetic rubber, 75 per cent of shipbuilding capacity, and 20 per cent of American land, not to mention complete control of atomic power. One fifth of the nation's total manufacturing facilities were in the hands of the government, and these facilities were capable of turning out about one quarter of the country's industrial production. Of even more significance, as Corey points out, the control was dominant in the newer industries, such as the light metals, synthetics, and plastics, which will play so vital a rôle in the world's economic future. That there is an existing partnership, however uneasy, between government and business, is indubitable.

As this is being written, the partnership seems on the point of dissolution.[45] Suggestions for the disposal of government war

[44] The best summary account of this material will be found in articles by Lewis Corey in *The Antioch Review,* September, 1943, "Problems of the Peace: I. War Plants"; and in *Common Sense,* February, 1944, "Mixture for a Mixed Economy."

[45] Apparently, no attention has been paid to the suggestions that recognized the significance of our wartime mixed economy and sought to preserve it in some way. One of the most interesting was that of Lewis Corey, who proposed the conversion of war plants into public corporations on the model of the TVA. The details cannot be entered into here except to emphasize that these corporations would have been run by functional boards of directors, i.e., those representing the large functional groups of management, labor unions, consumers, and the government. (See the articles just mentioned; also his *The Unfinished Task,* chapter XIV.)

plants seem to center on techniques for ploughing them under as quickly as possible, with outright scrapping, or sale below cost to the big monopoly industries who would then proceed to scrap them, appearing to be the most popular.[46] Even letting out bids to small producers is being frowned upon because that would increase competition (as in aluminum and steel), bring about greater production, and so be prejudicial to the price structure: all of which is an orthodox corollary of the assumption that production is for profit rather than for use. To produce more goods for the American public is apparently not the aim of industry. A sense of functionalism seems to be lacking.

Functional is a key word in this discussion of a mixed economy. In fact, it is a key to an entire economic philosophy. A functional society, instead of what Tawney has called an acquisitive one, would seem to be a prerequisite for any morally intelligible approach to a fusion between economics and human values. In this use of functional, two different meanings can be detected. One points to the familiar maxim of production for use instead of for profit. That men should be judged economically in terms of what they contribute and what functions they perform is a social criterion that would seem to be unchallengeable. But by itself it appears more as a moral precept than as an economic program, more an end than a means. To supplement it with techniques would introduce the second connotation of functional, one that is closely tied up with the point of this particular section. It is only when the various economic groups can get together and determine democratically the direction of production and distribution that functional comes to have meaning and relevance. It is only when the consumer and the worker and the government along with management, can have a real share in setting up the goals and the programs of our economic

[46] Ever since the end of the war, the Reconstruction Finance Corporation has been accepting bids on this surplus property, but the great part still remains in governmental hands. (Autumn, 1946.)

society, that production for use begins to take on operational significance. A mixed economy has implications like these. That is why it is important, not because it affords a tepid compromise between, say, business and government but because it proposes a method whereby an ethically and economically functional society might be inaugurated.

The detailed political machinery required by a mixed economy has been blueprinted by many experts. Without attempting to enter any more than is necessary into such a technical and controversial field and without presenting a bibliography of the literature of planning, it can still be pointed out that suggestions such as those of George Soule[47] are as good a sample as any of the mechanics required for a mixed and planned economy. Particularly does his work attempt to surmount two formidable hurdles discovered by the antiplanners: the relation between economic "bureaucrats" and the federal legislature, and the question of centralization. In bare outline the Soule program, and similar ones, foresees a series of nationwide industrial councils representing directly and in a decentralized way the economic interests of communities. Labor unions, consumer organizations, the co-operatives, management, and local public officials would have representation on such councils. The public corporations proposed by Corey could also function in much the same way as these councils. Their job would be to gather data, analyze local problems, make suggestions to be passed on to a national planning board. This board would have the task of organizing data from the regional councils, accumulating information on the basis of which recommendations for legislation would be made to the Congress. (If all this seems like "bureaucracy," it must be recognized — as it does not seem to be by the American people — that all large enterprise, public or private, requires administrative departments, i.e., bureaus.) The recommenda-

[47] Although now out of date, his *A Planned Society* (New York, Macmillan, 1932), remains an excellent introduction to the whole field.

tions would not be in terms of abstract principles but would relate to specific programs for specific ends, as for example, increase of purchasing power, control of investments, prediction of consumer demand, construction of public works, and so on. Specific illustrations of such programs will be the point of the subsequent sections. But in all of them the approach of the planners is that of effecting techniques whereby the wheels of our technology can be kept running, and in turn, the techniques presuppose acceptance of some kind of mixed and functional economic order.

2. *The immediate imperatives of planning.* To keep the wheels turning must have an ominous sound these days. Dread of a postwar depression in the late 1940's that would make the 1929-33 decline a mere unpleasant incident is uppermost in all present-day economic thinking, popular or profound. The possibilities are indeed portentous. Here is a digest of them: [48]

> In 1940, we produced more goods and services than ever before in our history. Yet in that year only 46,000,000 persons were gainfully employed and nearly nine million more were unsuccessfully seeking work. Today [March, 1944] when the volume of our physical output is more than fifty per cent higher (after full allowance for upward changes in the price level) about 60,000,000 persons are employed, including the more than 10,000,000 in the armed services.
>
> To be sure, we have made heroic efforts during the war to expand our labor force and we have actually gone beyond full employment to a condition which may be termed over-employment. Thus, the Bureau of Labor Statistics has estimated that some four million workers will automatically disappear from the labor market when the war ends. These will include a million and a half young people who will return to school and college, about three-quarters of a million old people who have postponed their retirement as a result of the demands of the war effort, and perhaps two million women who will return to the nation's homes and

[48] J. Donald Kingsley, "Blunder on the Right," *The Antioch Review* (March, 1944), pp. 136-37.

resume their duties as housewives. We [shall] be left . . . with some 56,000,000 persons actively seeking employment — 10,000,000 more than we managed to employ in the "good" year of 1940.

That is sufficiently staggering in itself. But it does not give the full measure of the postwar employment problem, for two reasons. First, our labor force is constantly expanding at a rate of about one per cent a year, as a result of population changes; and secondly, worker productivity is also steadily increasing. In the period from 1929 to 1940 average output per man-hour increased at a rate of 2½ per cent per year and in many areas, improvement in productivity has been even more rapid during the war . . .

It is authoritatively estimated that with a continuation of this increase in the labor force and its productivity, the capacity of our available man-power in 1946 will be 25 per cent greater than its capacity in 1940. (S. Morris Livingston, "Postwar Man-power and Its Capacity to Produce," *Survey of Current Business* (April, 1943, pp. 10-16.). . .

By every canon of reason, these facts should give our modern apostles of *laissez-faire* the jitters. For they mean that our national income and our consumption of goods and services has to be expanded beyond anything ever dreamt of in normal times. Should we produce in 1946 no more than our total output in 1940, we would have 19,000,000 unemployed — certainly a sufficient number to threaten the stability of our whole social order. To provide reasonably full employment in 1946 on a forty-hour week basis, our gross national product will have to be valued at about $150,000,000,000 in 1940 prices, as compared with the $97,000,000,000 value of our product in 1940 [which is just about what has happened.] [49]

[49] These figures have been brought up to date and verified by a bulletin, "Post-War Markets" (Public Affairs Press, Washington, 1945), which points out that if post-war output should be no greater than it was in 1940, when there was already stimulation by war orders, "there would be the 9,000,000 who were unemployed in 1940 plus the 2,500,000 added to the civilian labor force between 1940 and 1946, plus 8,000,000 who would be displaced by improvements in efficiency over the six years — a total of over 19,000,000 unemployed." The only revision that needs to

There is nothing stupendous about such a national product. It is actually less than we turned out annually during the war and it is conservative as far as objective estimates of our capacity to produce are concerned. However, without a program of planning — and one that goes far beyond the planning being recommended by private enterprise — such figures may indeed seem fantastic. Certainly the chronic refusal of industry to produce up to capacity would make them utopian; industry talks of a national income of not much more than $100,000,000,000. Certainly without a thoroughgoing schedule of public works of all kinds during the final reconversion period and as long after as necessary, the menace of millions of unemployed becomes imminent and frightening. Of course, public works mean continued government spending, high taxes, and probably a longtime deficit economy. These will be discussed shortly, and it must be admitted at once that such phrases make unpleasant sounds in the ears of many Americans — especially of Congressmen: practically nothing has been done by the Congress to implement the long-range reconversion program proposed by the Administration in September, 1945. But unpleasant or not, the alternative to government co-operation is the almost certain development of a catastrophic depression, which may well topple the whole structure of private enterprise. The plans proposed by the upholders of that structure, that is, schemes like those of Baruch and Hancock, the Committee for Economic Development, Alfred Sloan, and others, envisage a bare minimum of government help, hope for a balanced budget, and put their trust in consumer demand plus the efficiency and benevolence of American industry. These did not suffice to prevent or check previous deflations; they

be made in these figures and estimates at the present time (Autumn, 1946) is a postponement of the unemployment crisis from the late 1940's to the early 1950's — that is, assuming a peacetime economy is still operating then. Continued government spending, quick reconversion, and unexpected consumer demand are what have apparently kept up present employment.

give no promise of being effective in the future. It takes no great acumen to observe that at the present time there is one overwhelming economic compulsive that cannot be put aside: avoidance of catastrophic depression and unemployment when the inflation period ends. This is the imperative that has to be answered. It is not simply the ethical question of a right to work or the political value of a new bill of rights. By some these may be considered academic, even metaphysical. What is involved is neither academic nor metaphysical. The American economic structure cannot support nineteen million people out of work.

No matter how sincerely and efficiently private industry attacks this imperative, there must be massive reliance on co-operation with national public works to avoid a tragic deflation. As a start, it has been estimated that about a million men can be used for highway repairs and construction and many more for the entire rejuvenation of our transportation system, and no less than four million on rebuilding and rehousing America. Planning for this, along the lines of the tragically short-lived National Resources Planning Board proposals, cannot be escaped. But the whole idea of public works must be expanded far beyond the familiar ideas of WPA and road work. It must be extended to include development of new industrial processes and products. The planned control of our technology is essential if it is to be devoted to production for use. In addition, the inevitable unemployment that will occur during the later reconversion efforts, whether public or private, must be cushioned by some form of extended unemployment insurance or dismissal pay. This would introduce, of course, the whole problem of long-run compulsives, those of social security.

3. *Longer-run imperatives.* It must not be forgotten that this chapter is concerned with the economic considerations for a democratic society. The moral and political implications of a democratic ethic have already been presented; they can be summarized in the idea of a new bill of rights that provides for the individual a sig-

nificant extension of the claims he can justifiably make upon society. We have seen that a right to work is one of these claims, one that presents the imperative of maintaining employment for everyone willing and able to work. This is what confronts us as we look ahead. A right to education and the fruitful use of leisure time, a right to enjoy health and to be provided against the inevitable onset of illness and old age, are other claims that also must be recognized. The latter group has long since been accepted for generations in Europe, although for not much more than a decade in this country. Social security, whatever intransigent protests may be made upon it in the name of "coddling," has come to stay. The point here is to insist that such security must be still further extended. This is one of the long-run economic imperatives that has enormous socio-ethical consequences.

Once more, the technical details of an expanded social insurance program are not within the province of the present discussion. The essential elements of schemes like the Beveridge Plan in Great Britain and that of the National Resources Planning Board in America should be familiar to every literate citizen. It will suffice here to sketch an approach to still controversial issues such as socialized medicine; universal education through at least the junior college years and for as much more as an individual is intellectually equipped, whatever his financial status; complete adult education, particularly in the creative exploitation of leisure; thorough protection against involuntary unemployment, whether temporary or long-run, sickness, and old age; and whatever other guarantees are necessary to insure the individual's completest functioning and the symmetrical development of his potentialities and opportunities.

That approach was described by William James in his famous thesis of a moral equivalent for war. At the present time the thesis seems dramatically relevant. There must be an electric quality to the idea that for a bare fraction of the cost of winning the late war we could bring forth changes that would revolutionize

the entire social structure. Poverty, ignorance, most disease, the major part of psychological frustration and insecurity could be effectively combatted by a national budget that would never reach the money spent annually from 1941 to 1945. Consider that the price of one battleship would endow a university with equipment and faculty equal to, if not greater than, that of any existing institution, or that the most ambitious public health program could be financed by a few months', not to say a few weeks', war expenditures. The resources devoted to several days of killing could support months of research that would guarantee the conquest of some human plague. The $2,000,000,000 devoted to making the atomic bomb could effect the complete cure of most of our present "incurable" diseases. These are simple and demonstrable observations. Yet so far they have failed to provide the motive power for any civilization. Sacrifices will be made unquestioningly for war; that is to be expected and, in some cases, applauded. But sacrifices through lower profits and higher taxes for those who can pay them, directed to raising immeasurably the level of human living, are still regarded as utopian if not subversive. We have the capacity to wipe out most social evils; in wartime we uncover the supercapacity to destroy countless billions in wealth that another supercapacity has produced. Yet to do the constructive job that a war economy and a war productivity amply demonstrate we can do destructively is still regarded as fanciful.

The moral equivalents of war are not simply the overcoming of what are called social problems. As William James, and Francis Bacon before him, argued, nature too remains to be vanquished. Conservation of natural resources and raw materials, including the conserving of the earth itself as a public domain, flood and erosion control, research to utilize the atomic sources of physical energy and to effect meteorological changes — these and countless other equivalents for the conquest of man by man remain to challenge human intelligence. Less vaguely, they remain also to challenge

our economic resources. We have the resources to undertake these adventures, and in a sense we are indeed fortunate that the economic imperatives rising in front of us are at the same time adventures and challenges to the human spirit. Whether man will finally respond to them is still uncertain, but if he does not he is unquestionably lost.

4. *"Where's the money coming from?"* This phrase is the title of one of Stuart Chase's popular economic treatises, but it presents a far from popular contemporary economic doctrine, the deficit financing concept connected with the names of men like Alvin H. Hansen and the late John Maynard Keynes. Like so many other economic ideas mentioned in this discussion, the deficit doctrine is highly controversial, and in its monetary implications, extraordinarily intricate. Nevertheless it can be given a non-technical and, it is hoped, a plausible exposition that may at least indicate a money source for our economic compulsives.

The financial problem of economic planning is, of course, that of spending, public or private. Perhaps investment has a better sound than spending because, apparently, spending means contracting a debt whereas investment seems to have other connotations. For example, a corporation that secures money to build houses is thereby raising capital, which is good; but a government housing program means going into debt, which is bad. Words themselves are paramount here. As Stuart Chase points out, there is a semantical blockage in the word debt, and, we can add, a soothing rock-a-by quality to balanced budget.

Fear of national debt leading to national bankruptcy, such as that which happens to individuals, is a suffocating fear for many persons who might otherwise give their allegiance to the economic and political planning necessary for a full life. But, as with so many other analogies, that which compares personal and public debt is a poor one. Perhaps the most simple way to show the unfortunateness of the comparison would be to develop it. Let us

say we balance all budgets, that is, all charge accounts, bank accounts, promissory notes, not to mention bank notes. Following the analogy of private debt, to balance means to have sufficient liquid assets to pay all debts. Of course, such a suggested liquidation of assets is unthinkable; economic paralysis and the effective end of a credit, that is to say, a capitalistic economy would be among the quick results. Debt is no problem so long as there is income, that is, production. People go into bankruptcy not because they owe money but because they cannot produce. Actually, a rise in debt, such as increases in department store charge accounts, or conversely, in checking and savings accounts, is an infallible accompaniment and sign of prosperity. The prosperity period of 1921-29 saw a rise in the public debt from $75,000,000,000 to $126,000,000,000, and few would argue that the astronomical size of the debt during the war was an indication of depression.

Since analogies are admittedly dangerous there is no point in pressing them. Public debt and investment can be discussed without any necessary comparison with the concept of private debt. One point of departure for such a discussion is the rather elementary observation that what a nation can afford has little to do with money. The United States could afford to wage war even when the national debt pyramided to $270,000,000,000, a figure that would have been considered insane by orthodox economists a decade or so ago. What a nation can afford depends on its productive power, on its man-power, its industrial know-how, its natural resources. Certainly the war efforts of Germany and Japan made meaningless for all time the notion that national bankruptcy is a financial matter in the sense of incurring huge money debts, especially when there is no gold basis for the national credit. Germany and Japan were scheduled to have gone bankrupt years and years before they were defeated. It never happened. In fact, it can be argued that no nation can go bankrupt on internal debts.

Public debt is ordinarily the converse of investment. The two

are different aspects of the same thing. In wartime the investment is in the machines of war. And, to be paradoxical, it does not much matter, economically, whether the war is a victorious one or not. It does matter, of course, politically, since national credit is a political rather than an economic matter. The very phenomenon of peace scares during the war, which shook the stock markets and caused minor unemployment panics, shows clearly that it is not war expenditures but the fear of no expenditures that is the paralyzing fear. There is no economic or ethical reason why, in peacetime, investments along the lines suggested in the foregoing sections cannot be the equivalent for wartime spending. The debts incurred are the results and signs of investment; they are not some mysteriously sinister phantom, shadowless and without antecedents, that is conjured up by financial witch doctors. In war the investments are to be found on the battlefield, the men, the guns, the ammunition, the food, the ships and tanks and planes, the victory. In peace the investments could be the homes, the food, the knowledge, the TVA's, the health of men, and their security. Public debts are balanced by the tangible and intangible fruits of what the money has bought; national mortgages are amortized by the ongoing productive capacity of the nation. This is no euphemism. On the contrary, the myth of money cancellation of national debts and notes is the euphemism that uses smooth-sounding words to try to cover up with balanced budgets the economic sores that cannot be covered up.

So long as there is economic expansion plus adequate anti-inflationary taxation, internal debt cannot constitute a frightening problem. But without expansion there is something to be frightened about, because now, regardless of what system of finance economics we follow, there is an incredible war debt and a period of admittedly unhealthy inflation. The spectacle of expected deflation, of the resulting collape in consumer purchasing power and of the brakes put upon capacity to produce, of a "back to normalcy"

move that signifies frantic attempts to balance the national budget, of a scarcity economy and production for profit only — this spectacle must appall the upholders of our present economic system as much as it does the victims of that system. Phenomena such as these are the marks of a stationary or contracting economy, of depression; which introduces the precise point of the Keynesian approach.

Unlike the orthodox economists, the followers of Keynes and Hansen do not believe that savings always mean productive investment. It was formerly the belief, and it still is for many economists, that the automatic mechanism of supply and demand in the capital market through its effect on the interest rate will guarantee that money which is saved will be spent, that is, invested, where it will do the most good. That is, investment is not simply the purchase of stocks and bonds but the spending of money for new equipment or construction; thus, the deflationary effect of saving — since what is saved is not immediately put back into the economic process — would be compensated by new productive investments. That this process has not worked out in quite the mechanical way it was supposed to is demonstrated, for one thing, by our periodic depressions. It is no great statistical feat to show that, in this country at least, our prosperity has come with an expanding economy, and depression with a period of contraction or stagnation. Indeed, this statement is a tautology, for what we mean by prosperity is production, and conversely contraction is depression. This may seem transparently oversimplified, especially when one adds that the remedy for depression is therefore the use of devices to keep our economy expanding and dynamic. Economic "expansion," it will be understood, is not a prelude to imperialism. As has been noted before, the American consumer, according to orthodox economists, can absorb all that a dynamic economy can produce, provided that his wages permit him to buy those products. This does not, of course, preclude legitimate foreign trade, since any

country depends on the rest of the world to supply many of its needs; but such foreign trade does not necessarily imply political domination of smaller and backward nations. As a matter of fact, imperialism has often been the product not of an expanding economy but of one which in desperation seeks foreign markets to compensate for the deflation resulting from lack of domestic purchasing power.

This, then, is the argument of the economists who follow the "deficit" approach of Keynes and Hansen:

> During the pioneer days of a new country and a rapidly growing population, it used to be taken for granted as a rule that there would be a demand for anything of value that could be produced. But that is true no longer. Careful advance calculations are made of possible sales. New investment is "administered" by large corporate interests which are fearful of overproduction and glutted markets. Other influences as well combine to restrict the use of new savings. On account of rapid advances in the techniques of production, it is often possible to expand output manyfold with only an inconsiderable expenditure for new equipment. And, as the general level of income rises, savings grow faster than spending, because those with higher incomes save a larger proportion of what they make.
>
> On these and other accounts, the economists believe that a deficiency of new investment is normally to be expected. They believe that this factor is what accounts for the long continued depression of the past decade, which they think was more than an ordinary cyclical recession of business. They expect another deficiency of new investment some time after the war. This is not because they think no new investment will take place. But they are conscious that a truly enormous amount must be invested if full employment is to be achieved and made continuous. They cannot conceive of enough new industries, and know of no plans of business, which would spend the requisite amount.
>
> By saying that an economy has become "mature" and therefore tends to stagnate, this school of economists does not mean that all demands of consumers are satisfied and there is no more room

> for a growth of useful production. Far from it. They believe there is a scope for growth of business enterprise far beyond anything known before. But they believe also that the present institutions and habits of business are such that it cannot realize the possibilities without the help of something much bigger. The national income which must be achieved to attain full employment, under the high productivity of modern technique, is so huge, and the savings which will normally be withdrawn from it are so tremendous, that they think nothing short of great public enterprises financed by government, which is the biggest business of all, will suffice to hold new investment at the level required to keep business active and assure employment for all needing to work.[50]

Of course, it is only fair to add that this reliance on semi-permanent public works, in the expanded meaning of public works suggested some pages back, means a relatively high level of taxation, a large standing debt, much government co-operation in a mixed economy, and perhaps even a degree of consumer rationing. Critics of the idea would also point out that it also implies a large measure of government interference and bureaucracy. Here is where the moral equivalent for war must meet its greatest test. Debt, taxes, some sacrifices, increased power of government, were all accepted during the war emergency. Some degree of such curtailment on the individual will also be necessary to win economic security. But that "peace hath its victories no less renowned than war" has seemed flat and uninspiring to men. They have consistently failed to see that a fraction of the cost of waging wars can bring about an economic security that might indeed make war itself unnecessary. There is nothing idealistic or utopian about such a possibility. Even if there were, there is certainly nothing starry-eyed in the realization that catastrophic unemployment and depression must be avoided if our economic structure is not to col-

[50] "Charter for America," a *New Republic* supplement, April 19, 1943, p. 538.

lapse. Sacrifice to prevent that collapse and all the human misery it would entail would seem an imperative no less drastic than that of the emergency of war.

In any event, the money for economic reconstruction will come from the same place that our war expenditures came from — the productive capacity of the nation. There is no technological problem involved. The problem is political or ethical, one of social philosophy. We *can* find the resources to plan an intelligible economy: whether we will is the great social problem ahead of us, and not very far ahead either.

As a postscript, it may be insisted that there is no intention whatsoever to propose government spending as an economic panacea. The deficit financing approach has been presented (*a*) to indicate a financial source for economic reconstruction, to point out where the money can come from; and (*b*) to demonstrate that, in the short-run at least, a postwar deflation and widespread unemployment are by no means fatalistically inevitable. The resources that won the war can win prosperity. But long-run government spending as a permanent foundation for economic soundness and as a substitute for more fundamental changes in the economic structure is in no way being advocated here. This is particularly true if the spending were to retain the emergency connotations connected with a limited view of possibly superfluous public works. Unquestionably, government spending to provide social insurance and to underwrite a new economic bill of rights must remain, but those expenditures must supplement not take the place of a functional economic order.

SUMMARY

Certain comments may be made in bringing this discussion to a close. It must be admitted without any hesitation that the various economic plans proposed here may suggest improvisation and eclecticism. That admission is not necessarily damaging if it is realized

that extemporizing is unavoidable in any kind of experimentalist approach. In some sense at least all experiments improvise because they are addressed to particular situations. The field of social problems is no exception. This may seem an offense to doctrinaires, but it is consistent with the whole orientation of this work. Specific questions demand specific answers. In many cases, they also demand immediate attention. Mistakes will certainly be made, possibly tragic mistakes. What else can be expected when the subject-matter for social experimentalism has been so cruelly warped for so many centuries?

Yet, at the risk of monotonous repetition, the acceptance of a necessary degree of experimental improvisation is not a rejection of the operational significance of leading principles. The notion of such a rejection is a libel on the entire technique of problem-solving. Earlier in this chapter the basic assumptions of planning were set forth and from time to time other generalizations were suggested. Without reviewing them, it may be helpful to outline a pattern that might emerge from the present approach to economic problems.

The over-all orientation here would be the use of human intelligence to help effect conditions in which men can achieve security. This is a leading principle that no amount of extemporization can obscure. Human intelligence, to continue, can make itself felt in this area only through a kind of economic planning that operates under assumptions like these: that the direction of economic enterprise must in general be along functional rather than acquisitive lines, that is, production for use instead of for profit; that private enterprise alone is incapable of making such a fundamental adjustment just as it has proved itself incapable of keeping our existing economic machinery running without periodic dislocation and breakdown; that therefore much more significant use of government in economic planning, and of non-profit institutions such as co-operatives and consumer organizations, is necessary.

If these principles add up to something that can be called democratic socialism or democratic collectivism, no matter. Despite the hesitation here to evoke "isms," such a label can be used if some of these qualifications are included: that government need dominate only the high ground commanding the economic terrain, for example, control of the great monopoly industries, of land and raw materials, of credit and international trade;[51] that government in this connection be not necessarily a synonym for bureaucracy but that it connote instead a political guarantee underwriting the democratic and functional representation of all economic groups; that legitimate private enterprise which is non-monopolistic and which presents no threat to the democratic functioning of the economic system or of the state, remain largely untouched; and, finally, that the state lose whatever mystical and totalitarian quality some reputed socialistic movements have mistakenly given it.[52] These conditions, which are conditions that would seem acceptable to almost all American social thinkers "left of center," give direction and motivation to the assumptions underlying a planned economy: they present a background that makes the day-to-day handling of specific economic questions less of a gamble than it sometimes seems.

A final note may be necessary, especially if there is lurking in the shadows the unfortunate question, What has all this to do with philosophy? Indeed, if that question is sincerely raised at this late point, the preceding chapters have been a failure. It would then be useless to say again that the techniques for reaching ethical goals

[51] Strategic controls like these might be tied up with the theory of government spending in that such expenditures could be used to inaugurate, for example, public direction of monopoly industry.

[52] Hayek's notorious *Road to Serfdom* (Chicago, University of Chicago Press, 1944) denies all these assumptions. But his book has now been answered by two of the most brilliant expositions of democratic planning, Herman Finer's *Road to Reaction* (Boston, Little, Brown, 1945), and *Freedom Under Planning* by Barbara Wooton (Chapel Hill, University of North Carolina Press, 1945).

must be political and economic in nature, that moral ends and social means cannot be separated. Yet it can be admitted that the soundest system of politics or economics can provide only a foundation for the good life. No social theorist, however pragmatic he may be, would rest with providing man with no more than the creature comforts; no reformer, however realistic, would consider his problem solved just by giving man social security. Security is a necessary but not a sufficient condition for decent living. It provides the time, the leisure, the energy, and the material resources — in a word, the possibility for human development and education.

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Chapter Eleven

PHILOSOPHY AND EDUCATION

THERE HAS BEEN A TENDENCY in some ideological circles to blame the miseries of the present day on something called materialism or pragmatism or relativism. Of course fascism once took it upon itself to flay the "individualistic materialism" of decadent Western culture. But the criticism that is worthy of attention is something allegedly more profound than that. It must be because it has impressed critics even like Lewis Mumford. In his recent *Condition of Man* he seems to go out of his way to agree with jeremiahs like Sorokin and Peter Drucker who pillory the deluded, to them, notion that conquest of political and economic inequalities can have any significant causal effect on the human spirit. Yet it is a straw man that these disillusioned ones attack. There may have been thinkers who seriously believed that the abolition of social wrongs would automatically, immediately, and necessarily usher in the Kingdom of God: some of the more enthusiastic of the French Encyclopaedists of the eighteenth century and some of the wistful characters to be found in Dostoievsky and Turgenev may be cited as possible illustrations. They are hardly representative of a philosophy that in no way is touched by the fulminations of outraged anti-materialists.

Such a philosophy is one which is concerned with laying a foundation, but it is not deluded enough to believe that a foundation without a superstructure has much to recommend it. Perhaps social reformers have not always been explicit enough in making clear that economic and political security is significant only because it

prepares the way for human development along ethical, esthetic, cultural, and intellectual lines; but that such a general strategy is implicit and that it cannot be permanently obscured by the necessary tactics of handling first things first must be apparent to any honest critic. This is not to be considered an apology for the occasional manifestations of social myopia, such as believing that men will be good just because their bellies are full. That "the devil finds work for idle hands to do" is a homely saw peculiarly appropriate when we contemplate the unprecedented wealth of leisure time which man is going to enjoy in the coming generations. If his leisure means nothing more than a bath of comic-strip and pulp fiction literature, of radio soap operas, of gigantic orgies of professionalized entertainment through spectator sports, movies, television, and other techniques addressed solely to exploiting the passive and undifferentiated reactions of a mass public, then it may also mean the wholesale debauchery of human intelligence by an up-to-date and technological model of the Roman bread-and-circuses. It is this, apparently, that the anti-materialists, especially Mumford, seem to fear. And were there a complete laissez-faire policy in the use of leisure, which would inevitably mean the dominance of man's free time by Hollywood, the radio chains, the professional sports impresarios, and true story fiction, all superintended by the advertising genius, the fear would be justified in a most unholy way.

But to blame such a dreadful prospect on the materialism which seeks to free man from economic insecurity and to provide him with the time, the means, and the desire to realize his capacities is certainly naïve to the point of viciousness. It is incredibly ingenuous because this soulless standardization of entertainment with its deathblow to privacy and to individual expression is already upon us, long before the leveling and deadening mediocrity which allegedly will accompany man's freedom from want and fear. To blame our present lapses into cultural barbarism on social security and on increased leisure and marginal literacy is transparently fan-

tastic: much more sound would be the argument that the anaesthetic quality of most modern entertainment is an escape from frustration. It is a function of present social unhealthiness, not a necessary foretaste of the boredom of a colorless utopia. It is an escape not only from insecurity but from the drudgery of modern work itself. For it is only a half-truth to say that more ample leisure alone is the clue to the development of the person. The humanizing of labor, the transformation of "making a living" from a category of merely secondary and instrumental to one in which it has the status of a creative and expressive end, are an integral part of the "materialism" which is wrongly supposed to be satisfied with mass production of entertainment gadgetry.

The point, then, is simply to renounce the interpretation of social reconstruction that fails to see in it anything more than a pedestrian concern with material resources. Such reconstruction has only made a beginning when it works in economics and politics: the structure for which the foundation is made ready must still be built. That structure must be one of human development, of education.

PHILOSOPHERS AND EDUCATION

The recognition of the philosophic importance of education is familiar and long-standing. Plato and Aristotle, Locke and Rousseau, Mill and Dewey and Russell, and other major figures in the history of ideas, made education of supreme significance in the philosophic enterprise. In spite of this, many contemporary philosophers have been inclined to play down the relations between philosophy and technical education, and to patronize "philosophy of education," regarding it as no more than an addendum to the curriculum of teacher's colleges. To challenge that patronizing attitude is not necessarily to apologize for what may well be serious limitations in the educational philosophies of some professional departments and colleges of education; but it is intended to point out

what seems to be a limitation in the temperamental equipment of certain philosophers today. That challenge can be put no more abruptly than in the words of John Dewey:

> If we are willing to conceive education as the process of forming fundamental dispositions, intellectual and emotional, toward nature and fellowmen, philosophy may even be defined as *the general theory of education.* Unless a philosophy is to remain symbolic — or verbal — or a sentimental indulgence for a few, or else mere arbitrary dogma, its auditing of past experience and its program of values must take effect in conduct. . . . In fact, education offers a vantage ground from which to penetrate to the human, as distinct from the technical, significance of philosophic discussions.[1]

This is why Dewey, who regards *Democracy and Education* as one of his most important philosophical works, wonders why philosophers "have not taken education with sufficient seriousness for it to occur to them that any rational person could actually think it possible that philosophizing should focus about education as the supreme human interest in which, moreover, other problems, cosmological, moral, logical, come to a head." [2]

Education in the broadest sense can be nothing less than the changes made in human beings by their experience. But these changes have moral connotations, for they imply a path or direction of change and also the possibility of deliberate control over that path. Ethical connotations would be present with even the widest possible meaning of education, the automatic conditioning of man and lower animals. When, however, the more limited and more usual denotation of education is intended — the deliberate change in the experience and conduct of persons (chiefly, not necessarily, young persons) engineered by an organized and conscious group — the moral implications are indeed staggering. They in-

[1] *Democracy and Education* (New York, Macmillan, 1916), p. 383. (Italics in original.)

[2] *Contemporary American Philosophy,* edited by Adams and Montague (New York, Macmillan, 1930), vol. II, p. 23.

volve not only the subjects, sometimes the victims, of the process but the initiators as well, since nothing presents so clear an intellectual challenge to a vested group as the opportunity to educate or to indoctrinate others. The overwhelming social significance of education can be located partly in this compulsory self-examination of the educator. Thus, whatever interpretation of education is accepted, broad or narrow, there is no escaping the conclusion that it is a moral affair. That is why the insulation between philosophy and education assumed by so many professional philosophers must appear absurd if not mischievous.

Scholasticism and Education

It must be admitted, however, that a recent movement in American thought has indeed understood the philosophic importance of education. That movement — one which has stirred up a ferment in contemporary educational theory, particularly at the college level — is connected with the names of Chancellor Hutchins and Professor Adler of the University of Chicago and with the Great Books curriculum of St. John's College. But the paradox seems to be that this renewed interest in education is one that totally rejects the patient, longtime efforts of the "progressive" theorists, and substitutes instead a criterion of absolute Reason and absolute Truth as the only respectable judges of how and what young people should be taught. Take, for example, this oft-quoted passage from Dr. Hutchins:

> The notion of educating a man to live in any particular time or place, to adjust him to any particular environment, is therefore foreign to a true conception of education.
>
> Education implies teaching. Teaching implies knowledge. Knowledge is truth. The truth is everywhere the same. [Footnote from Thomas Aquinas.] Hence education should be everywhere the same.[3]

[3] Robert Maynard Hutchins, *The Higher Learning in America* (New Haven, Yale University Press, 1936), p. 66. Chancellor Hutchins's more

One should like to assume that a statement as strange as this is offered sincerely, that is, that it is not a front for some new kind of counter-reformation in modern culture; also that, coming from a university president, it is intelligible. To attempt to understand it, however, means to go beyond its immediate context; and that is why a brief excursion into neo-scholastic educational philosophy may not be out of place. A detailed examination and repudiation of it has occupied many writers in the past few years — Sidney Hook, Harry Gideonse, Max Otto, Boyd Bode, George Counts, John Childs, Horace S. Fries, Dewey himself, and others, so there is no need in this connection for anything so ambitious. The present concern with the Hutchins approach is twofold, since (*a*) that approach may be regarded as a symptom of what happens when respectable philosophy has been for a long time disinfected from educational questions; and (*b*) of much more importance, it is likewise a symptom of a serious contemporary malady, the retreat from scientific method and "pragmatic materialism."

But perhaps these sentences from *The Higher Learning in America* are isolated and atypical of the book or the philosophy. We supplement them.

> The aim of higher education is wisdom. Wisdom is knowledge of principles and causes. Metaphysics deals with the highest principles and causes. Therefore metaphysics is the highest wisdom. . . .
>
> Metaphysics, then, as the highest science, ordered the thought of the Greek world as theology ordered that of the Middle Ages. One or the other must be called upon to order the thought of modern times. If we cannot appeal to theology, we must turn to metaphysics.[4]

The references and authorities Dr. Hutchins quotes are almost exhausted if we note the names of a few ancient and medieval

recent book, *Education for Freedom* (Baton Rouge, La., 1943), is a repetition of his earlier one: see especially chapters II and III.

[4] *Ibid.*, pp. 98-99.

philosophers. Not a single mention of a scientist or educational theorist. And there is a repetitious insistence on phrases like these: "cultivating the mind," "the intellect for its own sake," "truth for its own sake," "intellectual problems"; and this:

> If education is rightly understood, it will be understood as the cultivation of the intellect. The cultivation of the intellect is the same good for all men in all societies. . . .[5]

Throughout, the useful and practical are regarded as almost unmentionable, at least from the educational point of view.

The vulnerability of phrases and sentences like these is not alone in the elementary fallacies in logic that are committed or in the use of a long-since discarded theory of psychology. It is also found in the apparently deliberate failure to tell us what the mind and the intellect are. They are thrown at us like eternal absolutes, ignorance of which must constitute a mortal sin. If one is honestly unaware of the precise referents these majestic terms stand for, he can be nothing else but benighted.

To discuss "reason" in terms of reflective thinking and problem-solving and scientific method seems to interest Dr. Hutchins not at all. The "thinking" he recommends — the kind that is developed only through reading the classics — is evidently another thing altogether, and too precious to be analyzed. It is apparently very much like the pure Reason basic to the philosophies of Plato and Aristotle and St. Thomas Aquinas. It is a register of eternal Truth and Reality. It can be disciplined through dialectic. It is, above all, a refuge from the "relativism" stemming from contemporary worship of science, and an escape from the frantic and pragmatic experimentalism that dominates not only our education but our entire culture.

If something like this is what is intended by the emphasis on "cultivating the mind," then it is important to understand some of the assumptions upon which such a notion rests. Those assump-

[5] *Ibid.*, p. 67.

tions are easy to detect. They must be to the effect that modern education and modern culture are indeed ruled by "scientism" — the genuine practice of scientific method and an emotional commitment to it; and also that there has been time enough to see the general impact of the scientific attitude. As a matter of fact, these assumptions are implicit in every criticism made by this school, and they are supremely wrong. To recite these assumptions is to refute them; yet without them the position of the anti-naturalist becomes pathetically meaningless. It would be an amazing optimist who could see the rule of science prevailing in men's lives now, or at any time in the past. The efforts of philosophic instrumentalists have been and are today those of persuasion, devoted to attempts at convincing man that he *ought* to try thinking — not thinking in some medieval syllogistic sense, but in the sense of reflective inquiry, of the operational techniques and attitudes developed by the scientific temper. To assume that men now solve their problems that way and that it has not worked is to start from a fantastic postulate. It is as fantastic as the parallel assumption that a genuine "progressive" orientation dominates our educational policy and practice. Were these critics to pay attention, for example, to the recent educational works of men like Dewey, Bode, Hook, and others, they would discover serious complaints against the narrow interpretation and limited extension of much that passes for "progressive" education. A contention that modern education represents the triumph (or the tragedy) of making men think scientifically can result only from a kind of anaesthesia.

The seriousness of the Hutchins counter-reformation in education goes far beyond the limits of a college curriculum. As was feared some paragraphs back, it may be of a piece with the whole cultural counter-reformation that seems to be using these educational theorists as a mouthpiece. Dr. Hutchins does admit verbally that although "metaphysics" must be the core of all higher education, he is not "arguing for any specific theological or metaphysical system." But the developing strategy of his followers

belies that admission. The work of Mortimer Adler in particular has demonstrated that not any old metaphysics, and certainly not the metaphysics of naturalism, is appropriate; only the system of Thomas Aquinas has relevance for us today. This is not the place to argue about Thomistic philosophy, except to say that no one would think of disputing the relevancy of that system at the time it was formulated, in the thirteenth century. As a digest of medieval ideology it was a superb piece of reasoning and must always be held in the highest historical respect. But the very reason that made it so characteristic a product of its period would appear to present some kind of disqualification for its unconditional applicability in times that are so totally unlike those of its genesis. St. Thomas himself might well have admitted that. So it is not about Thomism that a problem develops but about what happens when an authoritarian procedure is applied to issues of the modern day.

What happens is nowhere better illustrated than in the tirades of Professor Adler. Without attempting any general critique of his writings, there may just be mentioned two articles that some years ago achieved a deserved notoriety. (Whether they are still his considered judgments is not known; at any rate he has not publicly renounced them.) In September and October of 1940, Dr. Adler's ideas became general property through a paper read before a philosophy conference in New York City and an essay on the younger generation in *Harper's Magazine*.[6] Here are some of his findings: Democracy has more to fear from pragmatic professors than from Hitler; they both deny values — "it is the same nihilism in both cases, but Hitler's is more honest and consistent, less blurred by subtleties and queasy qualifications and hence less dan-

[6] The paper was "God and the Professors," delivered before the Conference on Science, Religion, and Philosophy, September 10-11, 1940, in New York City. The press carried accounts of the speech and it was printed in full in *Vital Speeches*, December 1, 1940, and significant excerpts were reprinted in the *New Republic*, Oct. 28, and Dec. 23, 1940. The *Harper's* article, October, 1940, was on "This Pre-War Generation."

gerous." In fact, what Professor Adler calls democracy can have no hope in America until the professors are liquidated; "professors" here is a symbol for all positivists who follow scientific methods. Thus, the coming of Hitler was indeed providential since it demonstrated what the professors have in store for us. Dr. Adler is not simply being negative in these Savonarola-like sermons: he lays down sixteen (16) propositions, equally divided between metaphysics and theology, all of which must be accepted to achieve salvation. They sum up, as he admits, to medievalism, that is, that metaphysics, the absolute truths of philosophy, must be set above science; and that theology, the revealed truths of religion, must be placed above all.

It would be untactful to attempt to defend professors, or to apologize for them. As for a defense of pragmatism and the applicability of scientific method, this whole book is devoted to that. But one cannot help getting extraordinarily excited about this kind of advice pouring out of a great secular university and receiving, to some degree, its official blessing. There seems to be a kind of cultural schizophrenia here, a fundamental discontinuity between science and metaphysics, between human findings and absolute truth, that is encouraged every time Messrs. Hutchins and Adler issue their ukases.

This is particularly strange since the kind of college education that is supposed to follow from the over-all philosophy — the kind that relies on some hundred great books — is purportedly a tribute to intellectual continuity. Mark Van Doren and others who have now taken upon themselves the toga of defenders of liberal education have equated such education with a knowledge of the classics, for continuity, they argue, must grow out of eternal verities alone, and they are to be found on a shelf of great books. That there is a continuity in experience seems unfamiliar to these gentlemen. And that such a continuity is a function not of literary classics alone but of the increasing understanding and control of nature through sci-

entific method must seem to them an impertinence. This constitutes no possible criticism of the great books; as a matter of fact the neo-Aristotelians are themselves doing a notable disservice to books by insisting on making them eternal and discontinuous with any particular historical setting. It is necessary, therefore, to turn from quarreling with what is regarded as a mischievous philosophy of education to presenting the outline of a more plausible one.

A THEORY OF EDUCATION

In one sense, the latterday Thomists have performed an invaluable service to education, as invaluable as fascism's contribution to political democracy: they have made us alert to problems that might have been passed over. Not that educational theorists had been insensitive to them before; but the theatrical quality, the publicity appeal and, above all, the tonic freshness and innocence that wells up when even expert thinkers first turn their attention upon, to them, a brand new problem — all have conspired to present a significant challenge to the most confident of educators. That challenge, however, has not been about the moral significance of education. In that, the Hutchins-Adler axis and its theological fellow-travellers, insisting that philosophic relativity means the absence of values, have been brilliantly wrong. As was suggested some pages back, all education has ethical content; to divorce it from values has never been the aim or the accomplishment of the alleged behaviorists and positivists who have been the target of the purists' scorn. The challenge is valid only when it asks, what kind of values are to orient education, and what is the ethical sanction? Here is indeed a challenge, a dangerous one; it is one that must be met and overcome, not surrendered to, since it is nothing less than counsel to turn back from the entire humanistic conception of values.

Democracy and Education

There is no point in reviewing earlier discussions of the instru-

mentalist approach to human values or of the significance of a democratic ethic. What needs to be suggested here is their application to problems of education. Democracy and education is more than the title of one of the classics in the philosophy of education; as Dewey develops the idea it encompasses an entire social theory. The logic of the connection between democracy and education is clear. For although education in the widest sense signifies the process by which social experience is communicated from one generation to the next, the slightest critical examination would repudiate the notion that just "any old experience" must be communicated. Education may be the technique of social continuity but, as mentioned before, it is not an amoral technique. It is not animal training. The stimulus to reconstitute and reform the experience that is passed on is an inescapable one; thus education becomes "that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience." [7]

This charge upon education to reconstruct experience is at the same time a demand to reconstruct society, at least to judge it. It is a challenge to test the social experience that is to be transmitted and to establish criteria for its direction. The criteria must establish a point of view. In general, that point of view can rest on nothing else but the assumptions of a democratic social order, which add up to the thesis that all persons must have the opportunity to develop fully, to realize their capacities, to grow. Growth is a key word here as it is in the whole Dewey approach to education. It is crucial because if there is any genuine meaning in the phrase "end in itself," then for education as well as for all life such an end must tie up with the concept of continuous growth. Actually the phrase has little meaning, since no end can be divorced from the means which achieves it, just as no effect can be an effect without a cause. For that reason the idea of growth is central. It cuts across any

[7] John Dewey in *Democracy and Education*, pp. 89-90.

attempted dichotomy between ends and means because growth cannot be a means to any ulterior end except more growth; the same is true for life, and for education. The very concepts of life and growth imply continuity. There are no ends-and-means discontinuities, such as Aristotle saw, in which animals exist for the sake of man, and slaves for the sake of citizens and gentlemen. Growth and life are teleological only in the sense of continuous growth and life for the individual and the species: evolution is perhaps another term for this. The only end that can be detected — although it is also the only means that can be detected — is to keep life going, which is what growth means.

It is no objection to say that some particular kind of growth, or of life or education is morally preferable to another as an end; that would be a misconception of the entire argument. The growth and life and education that are being underlined by this approach are assumed to be full and symmetrical. It is partial and distorted growth alone that must be rejected. Education for crime or for sadistic persecution means growth that checks other growth in both the individual and the group; life that is parasitic is the frustration of other life. Growth must signify growth in general, a continuum of growth. At least this is the kind that can function as a standard for education, for life, for democracy; and that offers a moral challenge to reconstruct the experience which education transmits.

The Implications of Democratic Education

A challenge to reconstruct experience is neither empty nor vague. The formulas about growth and development of potentialities may sound abstract and platitudinous, but not when their concrete educational implications begin to appear. In a cursory discussion such as this it would be impossible to develop the many aspects of democratic education, but some of them can be briefly noted.

1. There is, first of all, the implication that education must be free

to change just as society itself must be, that the experimental method is as fruitful for educational and social problems as it is for all problems.[8] This implication is contained in the concept of growth. It is evoked whenever we use that ever-popular contemporary term, "dynamic." In order for things to move and to develop there must be flexibility, not a kind of Aristotelian flexibility that permits movement only within the fixed groove of some predetermined pattern, but one which rests on the experimental assumption that the good life — in ethics or politics or education — is to be determined from time to time. If, for instance, we are now "living in a revolution," as Julian Huxley puts it, then education must certify that it, too, is revolutionary.

2. It is a revolutionary implication (or assumption, depending on what things are put first) that all people are educable. Not educable in exactly the same way; they do not all have to become, for example, obscure disciples of Aristotle or Saint Thomas. Education signifies growth, the development and socializing of human capacities; those capacities will differ in quality and quantity, but each individual must be given full opportunity to exploit himself and his environment so that he actually does grow. Those opportunities will not be found lying around. A passive, laissez-faire attitude on the part of society toward the opportunities which alone can bring about all-over human growth is dangerously shortsighted. The stimuli to human development must be actively and deliberately provided.

This means more than universal literacy, even at the high-school level. It means, to be specific, that no one be prevented by financial reasons alone from continuing his formal education at the college and university level. At least half of the best-equipped high-school graduates cannot now afford to continue their training.[9] This loss

[8] *Vitalizing Liberal Education* by A. D. Henderson (New York, Harper's, 1944), contains a decisive argument for this assumption; see especially chapter III.

[9] Henderson, *ibid.*, p. 37.

of potential leadership is appalling. It is not generosity, and certainly not charity, that dictates for the citizen as much formal education as his talents can absorb: it is common sense realization on the part of the state that a technological culture demands expert leaders, trained in technics, in cultural analysis, in a dynamic social philosophy, in all the ways that a genuinely liberal education can command.

But an education directed by the strategy of providing opportunities to enlarge the life of the common man must go far beyond even universal liberal training for all who are capable of it, and far beyond the idea merely of providing leaders. It must develop along the lines of "adult education," a phrase that conceals in a casual and elliptical way the most electric of qualities. There is dynamite in the idea that the education (growth) of the adult is limited only by his needs and his capacities. Among his biological and social wants are the satisfaction of curiosity, the sense of accomplishment, the feel of creativeness, the need for self-expression — in a word, the entire expansion of his consciousness. There is nothing artificial about these; if they seem so it is only because at present they are frustrated, deflected into bizarre and stupid vulgarities by the warped social structure in which man finds himself. It must be remembered that the present chapter was preceded by treatments of politics and economics. Without them the discussion of the enlargement of personality through educational devices would be utopian indeed; but granted, at least as an assumption, the possibility of an economic reconstruction that will release men from drudgery and insecurity, the limits of adult education become not limits at all but signs pointing the way by which man can become more characteristically human.

Not by leisure but by the cultivation of leisure can men grow. Therefore education for the citizen must aim to exploit the free time that the march of technology seems to promise him. This does not mean regimentation or discipline; it does mean that men must

be granted the chance to employ their free time creatively and fruitfully and not to become simply the mass victims of a leisure manipulated by the advertising impresario. For example, encouragement of artistic talents, appreciation of great music and literature, introduction to the fascination of science and philosophy, cultivation of hobbies, training in the handcrafts — these are some of the paths that must be explored by an education for democracy. There is nothing particularly novel about this. The whole tradition of the folk-school movement, in Denmark and elsewhere, is in the pattern. A notable contribution in this country was made some years ago by the various W.P.A. art projects, including the beginnings of a federal theater; it was a tragedy of no small dimension that the idea was abandoned as a frill or as a subversive menace, in some peculiar manner, to the American way of life. It is not too much to say that government encouragement of adult education along lines such as these is the one guarantee we have against wholesale prostitution of man's leisure time to the demands of pulp fiction, soap operas, and professionalized sports. It is revolutionary, therefore, to regard people, all people, as educable. The kind of education depends on their needs and wants, on what is lacking in their all-round, symmetrical growth. The promoting of that growth is indeed democracy in education.

It must be added that education for leisure is by no means the sole technique for making men grow, although it is the most significant. Drudgery as well as insecurity is a brake on self-expression. Therefore, work itself must be so handled that it loses the notoriety of original sin. Making a living need not be merely a means to an end. It can be developed in its own right as a creator of values. In a complicated technology there is, of course, little point in yearning for the medieval craftsmanship that helped to correct the drudgery of some aspects of pre-industrial labor. But there is point in insisting that humanization of the working environment by awareness of the complete process or product served by one's task on the

assembly line, interest in the social uses and implications of one's labor, a developing sense of participation that comes only from responsible co-operation with the industrial managers, are all to be regarded as part of adult education. Notable advances have already been made in these directions by the various research and educational and labor-management departments of the larger labor unions.

3. Some paragraphs above there was a brief reference to the necessity for higher, liberal education for all persons capable of it. Perhaps a little elaboration of the purpose of liberal education needs to be added. This would seem to be in order not simply because of the nature of the book, addressed as it is chiefly to college and university students, but because the recent stir in educational theory is confined largely to the content of liberal education at the college level.

A definition of liberal education may first be proposed. That of President Henderson seems much in line with the argument of the present chapter:

> It is an education that tends to produce the liberal individual — the person who, because of his perspective of history, his critical observation of contemporary society, and his understanding of social dynamics, helps to facilitate needed change in the world. The function of liberal education is to help advance contemporary culture.[10]

If this kind of definition seems narrow or irrelevant to the purists, an intrusion of social significance into the august and immaculate regions of, say, great books, it is because the revolutionary crisis of the present day has failed to penetrate the educational inner sanctum as well as the philosophical. A basic assumption of the present work is that philosophy itself must become acutely sensitive to the priority of social questions, not because of esoteric or proletarian reasons, but for the preservation of the values and contributions

[10] Henderson, *op. cit.*, p. 15.

that make philosophy and the whole human enterprise plausible. Liberal education can no more be exempt from that social orientation than can philosophy or science or any other cultural process. Liberal education must take the lead in creating such an awareness.

It must take the lead in understanding and directing our culture, and not simply be content with efforts to preserve the past. That the past contributes mightily to an understanding of the present is indubitable, and this definition takes full account of it. But that the past is to be cultivated for its own sake is something else again. It is present culture, not past, that is threatened. It was their own "present culture" that produced the great books which, we are advised, must now constitute the meaning of the humanities and of liberal education. It is concentration now on "needed change in the world" that will produce more great books. Any other orientation is turned toward "gentlemen" in the invidious sense; and " 'gentlemen' who do not deign to soil their hands with productive activity or disturb their minds with vexatious contemporary problems are a luxury which the world is in no mood to afford." [11]

The directing of liberal education toward the solution of contemporary problems can be regarded as limited or illiberal only if those problems are misunderstood. For contemporary problems involve nothing less than war and peace, that is, survival or extinction, as well as the extension of a democratic ethic, the place of scientific intelligence, the permanence of particular economic and political institutions, the very fabric of a social culture. These are not social problems in a parochial sense. They are comprehensive enough to include even a discussion of the function of the humanities. But to circumscribe liberal education by refusing it any other office than that of considering the place of the humanities is a crippling limitation. It does not help to argue that the humanities, for example, the great books, are the one right way through which contemporary questions can be approached. At best such an

[11] *Ibid.*, p. 2.

assertion is pedantry; at worst (as, for example, in the proposals of Dr. Adler) it is a bald apologia for medieval and theological solutions for our present problems. As Max Otto clearly sums it up: "I see but one hope of overcoming the complex difficulties which threaten civilized mankind . . . and that is for young men and women to be trained to deal directly and scientifically with the social practices that have to be reformed." [12]

There is nothing visionary about this interpretation of liberal education. In these days a powerful motivating force is moving among the youth, here as well as throughout the world. "Living in a revolution" is not simply a platitude to the young. This is the judgment, not of agitators, but of a respectable college president:

> Whether or not this [social orientation] is the ultimate purpose of life for all time, it is the one which stands the best chance of capturing the imaginations of the young people of today. They seem potentially to be socially minded. They are less concerned than former generations with personal glorification and ultimate salvation, with the goals of glory, power, and wealth. When they sense the maladjustment in society today, and the opportunities for creating a better life on earth, they respond with eager desire to participate.[13]

There is promise in this. John Stuart Mill in the last century understood the possibility of an education that would dislocate the traditional selfishness and acquisitiveness in man; pushed almost to a religion such education would lead him instead to the Utilitarian consideration of the good of all. Many have thought this to be wishful thinking. They cannot have had much contact with young people of today. A liberal education that does not take advantage of this motive power and that does not capitalize the resources of science in an attack on the critical problems of our time is betraying the entire tradition of democratic education.

[12] From *The Progressive,* April 17, 1944, p. 9, in a review of Mark Van Doren's *Liberal Education.*

[13] President A. D. Henderson, *Vitalizing Liberal Education,* p. 45.

These, then, are some of the concrete implications of education for democracy: that education must be free to change; that all persons are educable; and that the core of liberal education must be a concern with significant contemporary problems.

EDUCATION AND THINKING

It could be argued with apparent plausibility that a theory of education such as the foregoing is not philosophical enough for the present purpose. As used in that kind of criticism, "philosophical" signifies something rather precious and de luxe, quite different from the meaning of the term throughout these chapters. Nevertheless, there is no intention of sidestepping the issue that way. The philosophical approach to education, as defined by Chancellor Hutchins, is centered in the belief that the goal of education is to make men think. Obviously, education must make men think—*provided that thinking is understood as naturalistic and experimental.* Certainly education must help to set human intelligence free, but how is that to be done? The mere statement that education, especially liberal education, must improve the mind is an empty one, and, if implemented as the neo-rationalists propose, obscurantist as well. As mentioned earlier, words like "thinking," "mind," "intellect," and the like are never defined by their new admirers; evidently they are to be as taken for granted as the perduring human tradition to be found in the classics.[14] But it *is* necessary to define thinking, since the quarrel in educational theory is not about the value of human thought but about its place in a context. Is thinking insulated or is it functional?

Since an entire chapter has already been devoted to reflective

[14] That a good part of the present discussion is a polemic against the Hutchins-Adler-Van Doren view of liberal education is not accidental. That view is a significant and dangerous aspect of an entire anti-naturalistic philosophy, one that will be further explored in the following chapter. A constant attack upon it cannot therefore be avoided.

thinking and scientific method, there is little point in reviewing the exposition. But it may be helpful to note some of the educational implications that seem to follow from it. If reflective thinking is a method for solving problems, it cannot be self-contained and aloof, approached only with a classical talisman or literary open sesame. Instead, as a method rather than a thing, thinking is an integral part of the situation and cannot intelligently be discussed when it is removed from that situation. A fork in the road, a broken shoelace, the choice of a college, a profession, or a wife, what to do with atomic bombs, unemployment, or Kant's categorical imperative — these, and a million others, are problems that might stimulate thinking. But the problem-situations are specific, and so are the thinking-techniques. There is, indeed, a common attitude — the scientific attitude — at the root of all legitimate reflective thinking, but there is no monolithic Thinking that is the proper subject of liberal education. In other words, intelligence is something to be analyzed and identified as it works; it is not simply the subject of commendation. It has a natural history that needs to be traced, but does not have a ritual that must be performed. To understand thinking is to understand the problem that demands solution, which would be still another argument for the widest kind of orientation for liberal education.

As an illustration it can be suggested that much of the anti-vocational bias of educators like Chancellor Hutchins misses this whole point. It is very easy to sneer at the alleged vocationalizing of modern liberal education. Lofty contempt for practical subjects is the watermark of too many scholars; the examples chosen are usually calculated to get a laugh: pie-making, camp leadership, window-cleaning, pre-pharmacy, salesmanship. There will be no apology here for the evident abuses of over-vocationalism in certain sections of present-day education. But to assume that training for making a living has no place in liberal education is to assume that education has no context. It is to make the pleasantly superior

assumption that, for example, college is a place to spend four happy years immaculately preserved from contamination with the outside world, a sort of unruptured chrysalis in which ivy can be enjoyed, green lawns can be trod, and precious books can be read, a refuge and a vacation from a naughty world. To regard making a living as a background for social and cultural problems of the most exacting nature seems alien to the classicists, as does the idea that thinking can function outside the wholly factitious situation of directed reading. Genuine vocational education goes far beyond the caricaturish limitations imposed upon it by the educational élite. From the earliest years of an individual through the latest ones to be served by an expanding adult education, there can be a vocational approach that will exploit every possible device for making men think, for making them sensitive to authentic and imperative problems, for enriching the making of a living so that it becomes more than a casually neglected instrument.[15] This enlargement, strangely enough, will employ great books, but they will be fitted into a situation, and will not carry their situation around with them as a turtle does its house. When thinking is understood as contextual, all educational experience contributes to it.

The interpretation of thinking as problem-solving gives validity and perspective to the entire educational dimension. Of more significance, it is a prophylactic against the absolutism and intolerance that anti-scientism encourages. The coincidence of reflective thinking and scientific method has already been elaborated, and the broad scope of scientific method must not be forgotten. Given these presuppositions it can be insisted that training to think is training in the scientific attitude, that the scientific attitude means a dislocation of reliance on an eternal truth to be discovered through insight

[15] This point is well made by Sidney Hook in an article, "Education for Vocation," in *The Antioch Review,* Fall, 1945, and by President Harold Taylor, "The Genteel Tradition in Modern Education," *ibid.,* Winter, 1945-46.

alone, or through great books. It does not seem to be apparent to the modern educational rationalists that, despite their common classical heritage, they differ strenuously among themselves; actually they have found no sense of direction or common truth in the great books. What has happened is, to quote Boyd Bode, that, by way of the classics, each classicist's individual conclusions have been fortified by unconditional, not to say mystical, sanctions: private notions, read into the classics, are reflected back as eternal wisdom. This is the height of illiberalism.

Education gets its content and techniques from scientific method or it gets them some other place. And since philosophy can put its values into effect only through education, philosophy gets its sanction from scientific method or some other place. The conviction that this other place is the possible source of a dangerously obscure and theologically pessimistic retreat from reason and defection from the scientific spirit is one that cannot be put aside. It is one that requires further examination if the office of intelligence in education and philosophy is to be made secure.

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Chapter Twelve

SCIENTIFIC HUMANISM

IN AN EARLIER CHAPTER, for convenience of discussion, a division was suggested between *Philosophy and Nature* and *Philosophy and Human Nature.* As a classification device to help in blocking out the general areas and vocabulary of the field, that kind of division is defensible, but only if it is not taken too seriously. There is no gap between man and nature, no discontinuity that sets the two off in separate cells. To change the terms, if "man" has connotations reaching out to the realm of *value,* and "nature" seems to lean in the direction of *science,* then it must by now be apparent that the entire thesis of this work has been to integrate the two. Man and the world, morals and technology, must be drawn together or catastrophe will result.

HUMANISTIC NATURALISM

Because of the necessity for integration, we are proposing here that the philosophies which have gone under the labels of humanism and naturalism be cemented; or, to be more drastic, that they in fact be regarded as different aspects of the same attitude.

Each of the terms has a notable history, which is in some measure a handicap, since so many things have been intended by the words that they always require qualifying phrases and clauses, prefixes, subscripts and superscripts, or other symbolic techniques necessary for detecting the precise referents. Humanism can mean anything from a rather precious school of literary criticism that has flourished in this country to a generous and systematic philos-

ophy interested in man and his works. In between these limits could be identified: the Renaissance delight in the rediscovery of pagan classics, an emancipated religious movement of modern days, a British synonym for pragmatism, a theory of liberal arts education — and the list would be far from complete. The same is true of naturalism. Excluding its uses in the realms of literary criticism and of zoology and botany, one still finds that the name can be applied to a spread of philosophic ideas ranging from a crude materialism to a sensitive awareness of the continuities found in all human experience. Philosophical dictionaries actually note twenty to thirty different meanings that have become attached to the word.

To state what naturalism and humanism connote for the present discussion seems, therefore, imperative. The entire argument of the present book has rested on the assumption that human values are man-made and man-directed. They are not intimations of a supernatural realm. The assumption goes further. It postulates the continuity of man with nature and denies any discontinuities between nature and what allegedly lies beyond it. Moreover, the continuity meant here relies on a human tool, a method: scientific method becomes indeed "the tool of tools," the remarkable instrument that ties together the different strands of experience we call nature. Man and his values, then, become integrated and continuous with the rest of nature when they become subject to the impact of that instrument.

Scientific Humanism

But man and his values are not reduced to meaninglessness because they are natural. The "philosophy of nothing but" is of little help here. As was argued earlier, the continuities insisted upon by naturalism today are not those of reductionism but of inquiry. Whatever over-all analysis there may be is not a downward kind, say, to a crass materialism or a blind automatism, but one resting

on a technique of investigation that is, above all, democratic in its operations: it regards all aspects of experience as equally real, it explains without explaining away. Man and his values do not collapse when touched by naturalistic analysis; if anything they ring truer and more boldly.

This is why humanism seems so necessary a term. It emphasizes the prominence of human values in any treatment of science or of the world. At the risk of repeating a contention made in an earlier context,[1] it must be pointed out again that the inability of natural science to discover in the non-human world anything that resembles values or purpose is no reason for despair. One does not have to gird up one's loins heroically, like Bertrand Russell's free man, in order to worship the love and achievement and noonday brightness that are supposedly alien to atoms and their accidental collocations. Such a "free man's worship" is a kind of religious masochism. Beauty is no less beautiful, and love no less lovely because they are only human. It's natural to be human.

A non-humanistic naturalism that sees no purpose in the world finds it hard to account for purpose in man. Purpose will always appear as a pathetic aberration, an irreducible surd, requiring a particular and somewhat devious kind of explanation. But man takes his purposes seriously even if the universe does not — although that is an inaccurate way of putting it. Man is part of the universe, part of nature, and as "natural" as anything else; his values and his hopes are as empirically real as anything that the old-fashioned naturalist could applaud. They must be taken into account along with all the other data and hypotheses at which scientific inquiry is directed. This is why "scientific humanism" seems an appropriate label for the complex of assumptions underlying this whole attitude. It is distinctly and belligerently a naturalistic attitude, one that refuses to renounce in any field of human experience the dominant place of intelligent inquiry; yet in such a claim there is

[1] *Supra*, pp. 46-49.

as little renunciation of values as there is of science. The human equation is not simply to be admitted into nature: it must be thrust into it. Not for arbitrary or rationalized reasons, but because man is natural. There is, then, a fusion involving naturalism, humanism, and scientific intelligence.

The fusion also involves "social significance," since humanism must be social as well as individual in its orientation. Man is "naturally" a social animal, and any philosophy interested in the human being must widen its horizons far beyond the solitary man. There is a methodological requirement that is equally important. Scientific inquiry is always social inquiry. It involves co-operation between men and between nations; it demands open channels of communication and access to information, without which science has literally no meaning; it is public in a peculiar and crucial sense because the experiments and the predictions that give it character must be repeatable and publishable. Science is as social an enterprise as it is a human and naturalistic one; and it alone can provide a philosophy like scientific humanism with the methods and the logic necessary to make human values operative.

"THE NEW FAILURE OF NERVE"

Is not scientific humanism more or less taken for granted in intelligent circles? Have not scientific method and intelligent inquiry and a healthy naturalism been once and for all installed in human experience? Has not the idea of solving problems — all problems — through the funded experience of critical thinking become a permanent part of our culture? Up to a decade or so ago the answer might have been yes. Not that we had succeeded in putting such laudable ideals into effect, but the affirmative answer would have been directed rather to the possibility of and the necessity for using human intelligence in human experience.

Even now it would be a very gloomy prophet indeed who would predict a longtime retreat from reason such as we have been suffer-

ing in recent years, a retreat that Sidney Hook calls a "new failure of nerve."[2] The examples are fairly obvious. It is not simply totalitarianism with its hysterical worship of a leader, a class, or an élite, its counsel to "think with our blood." It is not only the cynical propaganda of the advertiser or the political campaigner that treats man as Pavlov would his conditioned dogs. It is more subtle and dangerous than that.

We are hearing, for example, more and more about the evils of scientism and of positivism, of the error of man's trust in his own reason. Man is really a depraved creature, a sinful one, we are being told, who is vainly trying to pull himself out of a morass by tugging at his bootstraps. More than that, his very history, instead of containing any sort of promise, is more indicative of a coming doom: we are at the end of an age, we are in "the decline of the West." We are also advised, as the issue shifts a little, that science is bankrupt in its attempts to handle social problems, that what we need is good will alone and faith in some ultimate source of values, a source that is in some way transcendental. Since man is merely an animal he must justify his values, even such a one as democracy, by something above himself. Natural man is not sufficient by himself to justify himself. He must fall back on a super-nature.

[2] See the *Partisan Review,* January-February, 1943. As Hook points out, the phrase, "failure of nerve," is the famous chapter title that Gilbert Murray used (although he himself attributed the phrase to the suggestion of J. B. Bury) to describe the downfall of Greek religion: "It is hard to describe. It is a rise of asceticism, of mysticism, in a sense, of pessimism; a loss of self-confidence, of hope in this life and of faith in normal human effort; a despair of patient inquiry, a cry for infallible revelation; an indifference to the welfare of the state, a conversion of the soul to God." (*Five Stages of Greek Religion,* New York, Oxford University Press, 1930 ed., p. 155.) These are words that describe Greek culture of the Hellenistic period, the two or three centuries before Christianity; yet, without changing a syllable, they remain an eloquent (but depressing) statement of much of contemporary thinking.

This complex of anti-naturalism represents the contributions of many contemporaries who differ profoundly among themselves. Some of the men referred to are: Reinhold Niebuhr, Pitirim Sorokin, Chancellor Hutchins, Mortimer Adler, Peter Drucker, Lewis Mumford, Jacques Maritain, Aldous Huxley, Franz Werfel, T. S. Eliot, and, in certain aspects of their work, writers like Waldo Frank and Arthur Koestler. There is in the air a general suspicion of man and of his history, a nostalgia for revelation and for absolutes.

It is beyond the limits of the present discussion to trace the sociological reasons for this loss of nerve by so many of our intellectuals; and there is no intention here to deny the weight of some of the pessimistic allegations. Certainly in a time of upheaval and of international jitters such as this, one cannot be too cocksure when one tangles with misanthropes. But the point that must be underlined as strenuously as possible is the absurd contention of anti-naturalism that intelligent inquiry has already been installed as a conspicuous part of human culture and that it has failed. As was noted in the preceding chapter on education, the assumption upon which is founded the entire contemporary attack on science (and on progressive education) is the completely untenable one that scientific method has really been tried and has been found wanting.

The very contrary seems the case, for we have failed precisely where scientific and positivistic methods have not been tried, that is, in the entire field of social and ethical problems. Anti-naturalists contend that the bankruptcy of modern values is to be blamed on the failure of the scientific spirit. If ever cart was put before horse this is it. As Ernest Nagel has said, it is like blaming marriage for divorce. It confuses context and agent. The social situation with its vested interests and prejudices and stereotypes has prevented the employment of intelligent inquiry in questions of economics and politics, of religion and ethics. The humanist has been striving to penetrate that area, has been trying to combat the supernatural

pessimism that festers in the unsolved social problems with which society has been ridden. It is a malicious caricature to assume that we have tried thinking. Anti-naturalism is smothering an infant in its cradle.

This is not intended to be a polemic. But the present-day retreat from intelligence is a counter-revolution that is assuming alarming proportions. It is alarming because it takes a disparaging attitude toward man and his values. It discounts human resources in combatting evil. It provides a desperate refuge from thinking, the same kind of refuge sought by traditional religion before physical nature was understood. This is alarming because it is an atavism, a throwback to days before Hippocrates when some diseases (like epilepsy) were considered sacred. Hippocrates was the father of medicine because he contended that all diseases, all events, were equally sacred and equally natural. That is the only way to understand, handle, and control them. A similar attitude must apply to human values.

Loss of nerve, however, is not something that can be repaired just by exhortation. Its origins are deep, subterranean ones often unreached by complaint. All of us want answers to our questions; we want to be comfortable in our minds. Moreover, most of us want to believe rather than to inquire, to be disciples rather than investigators. It is frustrating to keep on trying to think, and to fumble and start all over again; it is much easier to follow a book or a leader, to sign on the dotted line. This easy way of political retreat has been taken by both Left and Right; neither one has monopolized nervelessness. For there is a profound psychological undercurrent of irrationality — not simply of intellectual laziness — that feeds into human nerve and helps to paralyze it. At middle age particularly does the paralysis seem to spread. A quick look at a significant number of distinguished contemporary novelists, literary critics, and even scientists — some of the names were mentioned on the previous page — would disclose a disquieting trend

towards mysticism, a sense of helplessness, an abrupt throwing overboard of ideas that dominated their work in the past. But because a man reaches his middle forties and is for the first time confronted with a down-going of energy and activity, with what Jung shows to be the fear of coming death, he is not thereby licensed to cast aside all reliance on intelligence and reasonableness. In his private life a turning to mysticism perhaps cannot be quarreled with, but for the middle-aged renouncer to advise his public to forswear pragmatism and positivism and naturalism, and to turn to the joys of anti-scientific broodings is a betrayal of every kind of intellectual faith and vigor. To call this a betrayal is not simply a matter of taste. The fruit of anti-naturalism is Dead Sea fruit.

Loss of nerve can be seriously challenged only by pointing to its fruits, not merely to the psychological results involving the individual but to the whole social pathology that develops inevitably from paralysis like this. Part of that pathology is a contempt for the democratic ethic. There may be anti-naturalists like Dr. Hutchins and Professor Maritain who profess passionate interest in democracy, but they are exceptions, and inconsistent exceptions at that. The spirit of anti-naturalism is by definition anti-secular and anti-scientific, at least in the area of values. It is committed to disparaging the unaided efforts of man, especially his efforts directed to the frightening problems of social and moral maladjustment. Science and intelligence are unable to go beyond the "merely" physical world, anti-naturalism contends. They must capitulate when values are introduced. Man, who is only an animal plus, cannot clarify his own moral confusions without reliance on something else. Are we not told that metaphysics is above science, and theology above all? The something else then turns out to be the majestic pronouncements of theology (ordinarily, one brand of theology), promulgated by an institution and by an élite. Democracy must become a hollow joke in the mouths of anti-naturalists, no matter how sincere their protests. The whole point of it is missed

when democracy becomes something to be sanctified by supernatural legerdemain and handed down, literally, to man. Man's salvation is put outside of himself, which is precisely what every democratic philosophy repudiates. It insists, on the contrary, that man's salvation, if he is ever to achieve it, must come from himself and not be vouchsafed by university presidents or streamlined scholastics who know what is good for him.

But the fruits of anti-naturalism do not really include a concept like democracy. The Hutchinses and Maritains may be innocent of what a democratic culture requires but at least they are to be commended for not yet having sold man down the river. It is this which all anti-naturalism, ancient and modern, ends by doing. Paralysis of nerve is fatal to humanism. It is fatal because it lets down the barriers to pessimism, defeatism, and to forthright fascism. The word fascism is used deliberately, since it has now come to stand as a symbol for a complex of ideas: contempt for the common man, thinking with our blood, mystical confidence in a leader or an élite, war upon any human enterprise — science and art in particular — that tries to secularize itself from the new mythology. These are the strange fruits that fall when the root of human responsibility is cut.

It would be embarrassing to name names but within the list suggested some pages back (and the list could be expanded manyfold) will be found a sample of the new "irresponsibles." This is the term that in a notable essay Archibald MacLeish applied to the writers of the nineteen-twenties whose disillusionment after World War I turned them into amoral cynics. These were the famous debunkers who found America so amusing.[3] Debunking has an im-

[3] A major controversy has been raging about this in recent years involving writers and critics like Van Wyck Brooks, Bernard De Voto, James T. Farrell, and others. But the controversy does not affect the point being made here; instead it swirls around the question of *who* are the cynics and *what* is meant by cynicism anyway. There is no defense of irresponsibility.

portant place in history and items of Americana are pathetic for what they reveal, but the irresponsibles saw only the gaucheries of American life and nothing of its promise. This, too, would be simply a matter of taste — about which there is no arguing — except that the resulting irresponsibility and moral nihilism provided fertile ground for the anti-democrats who knew what they wanted. Cynics and pessimists are always "suckers" (if one may be vulgar for a moment); they are easily taken into tow and put to use, sometimes in the strangest ways. Lack of confidence in man is an integral part of all anti-naturalism, and is just as dangerously irresponsible as the dilettantism that MacLeish deplored. Whether religion is indeed the opium of the people is a matter of debate, but that religious and supernatural distrust of man and his culture points the way to disaster is incontrovertible. Into the vacuum left by that pious contempt rush all the forces which will use man not as an end but as a means. The prognosis of nerve failure discloses fatal complications.

The Recovery of Nerve

Is not nerve failure inevitable? Does it not result, in fact, from the very nature of humanism itself, which is necessarily lukewarm and anemic, and which cannot compel our allegiance or direct our commitments? Must not humanism, therefore, give over to some form of supernaturalism?

In an earlier connection the potential emotional power in a humanist religion was mentioned.[4] Several additional observations may be made here.

These remarks are focused on a judgment once made about the philosophy of John Dewey, that it releases a "devotion so intense as to be religious, to intelligence as a force in social action." Humanism can do this because it shows man a view of nature and of himself that offers a challenge as searching as any

[4] *Supra,* pp. 98-99.

his genius has ever called forth. The challenge is not simply that of changing the world and the human spirit — all religions have claimed to be reconstructive; it is rather that scientific humanism presents the tool and the process to make reconstruction possible. To misuse a phrase of George Mead's, intelligent inquiry "institutionalizes revolution." The very operation of scientific method and of critical thinking changes the situation worked upon. A Promethean philosophy (as that term was used before) carries the moral responsibility to re-form the world and to revaluate values, but also, as an intrinsic part of its methodology, it carries the implementation without which moral responsibility becomes frustrating. Emotional commitment is an integral component of any philosophy of humanism because means are provided as well as ends.

Yet this is too academic a way of expressing it. The history of a great section of Western culture has already demonstrated the emotional fire and revolutionary power of man's faith in man; this history is precisely the history of humanism. The argument that humanism has failed to make an impression on man or to detonate his motivations has been limited too narrowly to the fields of philosophy and religion and creed. Look, it has been said, at the notorious failure of naturalism to capture the heart of man. But this ignores the entire secularization of so much of European and American history. To point to the lack of success, say, of Unitarianism or of "scientific religions" as evidence for the need of a supernatural criterion is quite insufficient. What must be pointed to instead is the Scientific Revolution, the Industrial Revolution, above all, the political revolutions of the seventeenth, eighteenth, and twentieth centuries. What must be indicated is the history of democracy itself, which is secular history. Not simply the history of man's conquest of physical nature, but the record of the opening — and only the opening — skirmishes in his campaign against social and political evil are written in terms of confidence in natural means. For more than four centuries humanism has provided revolutionary enthusiasm for the millions.

Is not this, however, what the anti-naturalist is waiting for us to say? Because the secular triumph of humanism has apparently brought only war, disaster, scientism and its moral eunuchry, and materialism with its horrid offspring of, as William James phrased it, the "bitch goddess Success." The history of democracy itself is only the history of failure, of problems unsolved, and of intelligence frustrated. Why not, then, give up and turn to the comforts of another world where there is no failure and no defeat? There must be a world where the animal always falls in the hunt, where there is no bungling with crude material things, where knowledge is complete and self-sufficient—a purer world where one can breathe a cleaner air. Such a world, a trans-natural one, becomes perforce the "real" world, one of certainty and remoteness, to approach which demands a different and higher form of knowing. Knowledge becomes revelatory of a supernatural world that is before and beyond mere sense data. "Quest for certainty," a repose in the finality of this real world, becomes the goal of real knowledge and of philosophy. As Dewey puts it, "we long, amid a troubled world, for perfect being."

This is surrender. Any other name for it is a euphemism. Certainly man has not solved his great problems; in many areas he has made barely a start, if that. But to act as if scientific humanism has had a long record of failure and must be supplanted by something else is to misread history disastrously and dishonestly. It would be to assume that the tools of naturalism and intelligence have been man's consistent and longtime tools. Scientific humanism, however, can be no older than science itself; actually it is much younger, for science has given its first consideration to conquering physical nature rather than to saving man from himself. This may or may not be a criticism of the scientific enterprise: it is an indication of its youth. The struggle to turn the methods of science to the problems of man is just beginning; to give up that struggle would be surrender of the most desperate and indefensible sort.

As a matter of fact, if any blame is to be laid at the door of human failure to understand the moral dimension, if responsibility is to be fixed for man's inhumanity to man, supernaturalism must be held as guilty as anything else. Certainly it has had a longer period to demonstrate its supposed competence and to practice its exorcisms and exhortations. For it to accuse a scientific naturalism that is barely getting under way for not yet having made man a god is impertinence of a peculiarly arrogant kind.

There is no contradiction in these arguments (*a*) that motivation and emotional enthusiasm can be aroused and have been aroused by purely secular movements such as those which for four centuries have been changing the physicial and political face of the world; but (*b*) that this secularization is still too youthful to be debited with the awful responsibility for war, human mechanization, and mediocrity. The religion of Prometheus is emotionally stirring but it is not overbearing. It looks to the future and it is completely unconvinced that man and his intelligence have been tried and found wanting; nevertheless it is necessarily promissory and therefore on the defensive to a degree. Its trust in human resources is neither blasé nor naïve. Man has accomplished this much: he can accomplish more. Whether he will or not is a matter of hope, hard work — and prophecy. But surely he will not accomplish more if he surrenders, turning to wishful rationalizations about a supernatural world and a superhuman instrument.

DEMOCRACY AND HUMANISM

The concept of democracy has reappeared a number of times throughout these discussions. It must receive one more mention, however, prompted by the use that a number of celebrated modern anti-naturalists are making of the idea. Democracy, they argue, must be put above the "merely" human dimension and be given a supernal sanction. It is too precious a value to be left to natural and unaided man. To be worth consideration democracy — what-

ever they mean by it — must be valid in and for itself. It is an absolute value, as are all significant values; and absolutes must be more than simply human.

If one thing has been emphasized in the present work it is that no basic assumption is automatically valid. It must be justified by what it does, by the differences it makes. Values are in no way exempt from a criterion like this. Values, democracy included, must compel our allegiance by affecting our lives; they cannot be thrust upon us by edict. To which must be added immediately and unapologetically: democracy has not the slightest difficulty in compelling our allegiance. It does not need to be absolute to be effective, but it does need to be effective.

The anti-naturalist and absolutist is persuaded that neither democracy nor anything precious can be preserved if there are no fixed and unyielding principles. On this basis, pragmatists and humanists are under constant attack. Their rejection of unamendables is construed as improvisation, as step-by-step groping, as pragmatic in the unflattering sense of crass workability. It is too late in this book to make an elaborate defense of an approach that has been developed for so many pages, but at least this may be said of such a familiar misrepresentation: the pragmatist is not to be feared for his alleged propensity to betray principle for what works, but, as Herbert Muller has so excellently pointed out, "it is the man of fixed principles who is more apt to become profoundly unprincipled." The truth of this is one of the great human tragedies. Tyranny and persecution, political and religious, are the inevitable fruits of reliance on absolutes, and the diabolism of "the end justifies the means" is but a consistent follow-through. When a value is put above all else, outside the reach of criticism or amendment, as the absolutely true and right value, it is logical to sacrifice to it. The absolute may be the salvation of an immortal soul or it may be the classless society; if it is regarded as ultimate, certain, and unchallengeable, nothing less significant deserves consideration.

It is so frighteningly easy to become unprincipled when one follows fixed principles.

Were it possible for democracy to become an absolute value — and the way "absolute" is understood here must be kept in mind: it refers to what cannot be changed by its context — then it would contain the dangers of any other fixed and insulated end. Fortunately, its very nature and functioning would seem to preclude any such disastrous transformation. (It is instructive to remember Huey Long's remark that if — or was it "when"? — fascism comes to this country it will probably be called Americanism. He did not suggest it would be called Democracy.) Democracy is never divorced from its context or situation: the very process by which it operates is a self-corrective one. As with all fruitful experience, the process is not cut off from the results. This tie-up between democracy and experience has been clearly expressed by John Dewey:

> . . . Democracy is belief in the ability of human experience to generate the aims and methods by which further experience will grow in ordered richness. Every other form of moral and social faith rests upon the idea that experience must be subjected at some point or other to some form of external control; to some "authority" alleged to exist outside the processes of experience. *Democracy is the faith that the process of experience is more important than any special result attained,* so that special results achieved are of ultimate value only as they are used to enrich and order the ongoing process. Since the process is thus capable of being educative, faith in democracy is all one with faith in experience and education. All ends and values that are cut off from the ongoing process become arrests, fixations. They strive to fixate what has been gained instead of using it to open the road and point the way to new and better experiences.
>
> If one asks what is meant by experience in this connection my reply is that it is the free interaction of individual human beings with surrounding conditions, especially the human surroundings, which develops and satisfies need and desire by increasing knowl-

> edge of things as they are. Knowledge of conditions as they are is the only solid ground for communication and sharing; all other communication means the subjection of some persons to the personal opinion of other persons.[5]

This interpretation returns us to the earlier contention that, no more than any other humanistic value, does democracy require a supernatural sanction. It is not absolutely valid but must be justified and, where necessary, altered by human experience. The terms of that justification would seem to include something like the following.

First, the essence of the democratic idea is to be found in its reliance on the possibilities of human nature, above all in its faith in human intelligence. This has been considered soft and illusory by anti-humanists and by others as well. But it is a working hypothesis that has provided the most powerful kind of weapon not simply for secular progress but for releasing the amazing potentialities that lie dormant in men. There is nothing academic about this: unfortunate in every way as war is, it still discloses the unexpected ingenuity and competence that an appeal to the common man conjures forth — something which we quickly forget when waging peace. Faith in human potentialities is a way of bringing into use the human resources that are now so tragically wasted. It is trite to point out that in man rather than in things are to be found our greatest untapped reservoirs, that in the human beings who are shut out from the chance to participate in and contribute to a culture is to be discovered the chief cause of social autointoxication. If it does nothing else, democracy is a tool that can pry loose these hidden talents.

In so doing the democratic idea evokes a loyalty that is hard to

[5] "Creative Democracy — The Task Before Us," pp. 5-6. Reprinted by permission of American Education Press, Inc., from *John Dewey and the Promise of America,* Progressive Education Booklet, No. 14 (Columbus, Ohio, 1939. Italics not in original).

overestimate. Democracy compels our allegiance not because it is something untouchable and remote but because its acceptance of the possibilities of human nature releases energies and capacities that otherwise would not be discovered. (In any discussion of democracy the point emphasized in an earlier chapter must be kept in mind, that is, that we have as yet achieved only an intimation of the full meaning of the idea, that political democracy must develop into economic, social, and cultural directions before the concept can be said to achieve meaningful stature.) Worship of the common man is not a wishy-washy enthusiasm, a mere matter of rhetoric; nor is it setting up a new absolute. The common man as some mystical ultimate is no more worthy of worship than any other man. The century of the common man is worth fighting for and will provide motivation for a humanistic and naturalistic faith because it alone can make plausible the patient understanding of others, the struggle against intolerance and cruelty, the keeping open of avenues for communication and rational intercourse between men. It is a self-correcting concept, since it holds faithful to the all-important maxim that no leader or élite is infallible, that "truth resides in the unique contributions of all men." This is what justifies democracy: no supernaturalism is required.

Humanism and democracy are thus almost interchangeable. A consistent humanistic philosophy must extend its applications to all men, and a democratic philosophy means nothing if it puts its sanctions in the unassailable regions above man and the world. Humanism seems to imply, therefore, a raising of what is asked of man and, conversely, a lowering of what is asked of the universe. Some things are demanded, others renounced. Is humanism, then, a *philosophy*?

SCIENTIFIC HUMANISM AS A PHILOSOPHY

Any answer to the question which ended the preceding paragraph must depend on the meaning of philosophy. The meaning that has

oriented the present work was expressed in the opening chapter. Without reviewing that preliminary statement, it still may be helpful to note the cardinal directions that the present approach to philosophy accepts. Philosophy is in general well described as the criticism of basic assumptions in all fields, but the insistence here is that the primary assumptions calling for criticism lie in the area of values. This gives a priority to ethics and to social problems. The unanswered questions which present philosophy its cue are the same as those that today demand attention from every possible human enterprise. If there is indeed a *philosophia perennis* it must be addressed to the problems that man has to solve or perish.

Should this be too vague it can be supplemented by recognizing that in scientific method men have uncovered the instrument necessary to the answer of their questions. Philosophy (at least according to the present interpretation) must be devoted to exploiting that method on behalf of human values. The gap between the technological and the moral is one that must be closed, and philosophy can find no nobler meaning than in closing it. There is a mighty task of liaison to be performed, the integration of scientific control and of ethical meaning. This is the great problem of human intelligence itself, much more than it is a philosophic exercise; but philosophy seems to occupy a peculiarly strategic position in undertaking that kind of liaison.

Such an interpretation of philosophy will fail to satisfy many persons. It may still seem reformist and hortatory, a matter of petty man instead of cosmic greatness. Where, for example, does humanism find a place for the classical problems of metaphysics and epistemology? It will be difficult to avoid pretentiousness or superficiality in trying to handle a question like that in a couple of pages; nevertheless the attempt must be made.

To begin by stating that traditional metaphysics and epistemology have always had a tinge of anti-naturalism clinging to them might seem abrupt if not impertinent. Yet there is justification for such

a statement. Metaphysics has been addressed to discovering the real world, and epistemology to the problem of whether we can ever know it. (The problems of "being" and of "knowing" are supposedly separate, yet it will be readily seen that they cannot be treated independently: the assumption that appearance and reality are indeed unlike is at the same time a metaphysical and an epistemological assumption.) The very reason therefore for the existence of these classic philosophical riddles is an implicit severance of experience from nature, or, more exactly, of human nature from the trans-human. Man's knowledge is one thing, the world is another: once they are sundered it takes all the king's metaphysicians and all the king's epistemologists to put this philosophical Humpty-Dumpty together again.

This kind of dichotomy is not in itself anti-naturalistic. It would be only a very impudent or idealistic philosopher who could assert that human experience exhausts the universe; or who could deny that there are indeed "mere" appearances and illusions. No anti-naturalism is involved in admitting freely that there are events in nature beyond present human experience: stars whose light has not yet reached a human telescope, or bacteria which still have not been roused from some primeval slime; or in admitting just as freely that things are not always as they seem: the optical illusions, jaundiced visions, and even pink elephants. The anti-naturalistic tinge to the standard claims of metaphysics and epistemology is to be found rather in the contention that the "real" world can be discovered only through "real" knowledge, a knowledge quite unlike the methods of inquiry that suffice for common sense and for science. This extra-special instrument of knowledge may be called pure reason, intuition, understanding, or something else; in any case it is able to pass beyond the perimeter of ordinary experience and thereby to substitute reality for appearance. It is at this point that the naturalist demurs. He may willingly admit that human experience is limited, but he is not prepared to accept that man can

pull himself up and out of that experience by tugging energetically at his bootstraps. He sees a possible predicament in the limitation and fallibility of human intelligence; he is not ready to elevate that predicament to a metaphysic or an epistemology.

To put it another way, the foundation of traditional metaphysics and epistemology seems to have been the quest for certainty. There must be a changeless and perfect world to compensate for the transiency and error of this one, and a sure and confident mind to know it. The nature that human experience manipulates with such difficulty is a factitious replica. It is shot through with contradictions (good vs. evil, or reality vs. appearance), incompletenesses (unrequited love, or unrewarded valor), and relativities (the sense perceptions, esthetic judgments, and moral valuations of human animals). The genuine world can have none of these. Furthermore, the "really real" nature must be approached by what is ostensibly a more arduous path, that is, something like the pure reason that is the private property of philosophy, but which is actually a kind of magic disclosing to us the authentic world by means of a sudden flash or a logical exercise. By magic is meant the wish to solve problems without using instruments. The fairy tale with its secret formula or talisman, and the classic metaphysical system with its esoteric knowledge are equally forms of picturesque surrender. They are transparent rationalizations that seek to escape the incorrigibilities of this world by inventing another, and to overcome the necessary fumbling and improvisation of problem-solving by revealing an ingenious intellectual short-cut. This search for an easy way out of trouble means the abandonment of naturalism.

The Assumptions of Scientific Humanism

It does not necessarily follow, however, that metaphysics and epistemology are literally non-sense, as the positivists insist they are. The positivistic position is that man cannot pass beyond the dimension of sensory experience, that he cannot make meaningful

judgments of a trans-empirical sort. There is nothing to quarrel with in that contention if it is understood, as it should be, in a positive sense. As a methodological requirement it seems unquestionable. But metaphysics does not have to imply a flight to the transcendental: the adjectives traditional, classical, standard, have been used here to qualify metaphysics and epistemology, and to suggest that the humanist and pragmatist is not so much repudiating metaphysics as bad metaphysics. The most liberal interpretation of metaphysics would appear to be that it consists of any set or pattern of basic assumptions about the world — and even a strict empiricist like Karl Pearson, for example, is forced to make such assumptions. This is not an attempt to justify metaphysics by giving it a very elastic definition, but rather a willingness to admit that scientific humanism, like every other philosophy, has a metaphysic, even if it is sometimes an implicit one. It has a group of working assumptions; and these assumptions — again, like all others — are necessarily taken for granted. What, then, are some of these assumptions? What, at least, are the metaphysical and epistemological ones? The general social and political assumptions of humanism have been discussed at length before.

That nature can be known and handled, that the world and human experience are not antithetical, is perhaps a primary assumption (and one that makes no distinction between "metaphysics" and "epistemology"). Actually it is not epistemological, since the traditional problem of knowledge is ordinarily waived by the humanist. That is, his assumption that inquiry is not a block or a screen but a legitimate way of getting at nature is non-epistemological: the only "problem" of knowledge is that of improving its instruments and techniques, not the obscurantist one of discovering that experience antagonizes nature and that the net result of human endeavor is to push the knowable world further off. To "prove" that the tree-in-our-heads cannot possibly be like the tree-out-there may be a fascinating (if meretricious) *tour de force*: it is scarcely

a contribution to an understanding of trees or even of minds. That nature can be known and handled means, more specifically, that man can make predictions about it and that those predictions can be verified or disverified. This is, of course, the basic axiom of scientific method: the scientific humanist contends — and the contention itself stands as a vital assumption — that it must also serve as the basic postulate of all human intelligence, philosophy included. Or, to phrase this whole point in the somewhat humorous way that Bertrand Russell does, the world is what the natural scientist says it is at any given moment.

This is clearly a-metaphysical too — if metaphysics is understood in its historical sense. But it certainly is an assumption, and a very bold one, about the world and about scientific experience; it is a key assumption in any form of humanistic naturalism and therefore must be considered as metaphysical in the liberal use of the word. The assumption is nothing less than the insistence that there is no other avenue but that of scientific method to an understanding of the world, that there is no magical short-cut to the universe, that no extra superfine, grade-A knowledge elevates philosophy above science.

Before a postulate like this is misunderstood, it must be remembered that, at least in one crucial step of its process, scientific method is very catholic. In the step of hypothesis-construction, where the creative imagination is given full play, no source of possible solution to problems is automatically disqualified. As was outlined in an earlier chapter, hunches, guesses, intuitions (even mystical revelations), as well as prosaic step-by-step plodding, all are eligible to make contributions. No area of creativeness is rejected a priori — just as no area is accepted before the fact. Hypotheses are judged by their predictability, not by their origins. Scientific autobiographies testify that the origins of discovery may be indeed very strange, for professionals as well as for amateurs; but that is neither a blot nor a recommendation. The scientific imagina-

tion can be judged only in terms of the operations it proposes and by the verifiabilities that go along with them. This extension of method to all forms of scientific creativeness must not be forgotten when the method of scientific inquiry is elevated by the humanist to a position of priority.

That the world can be controlled is another assumption of the humanist. Not only can nature, human and non-human, be known and verifiable predictions made about it; it can be changed. To be sure, exaggeration must be avoided in making an assumption like this: there is a whole range of controllability varying from zero to almost one hundred — from the stars to a simple trajectory, or from international peace to price adjustment. The materials involved and the extent of (possible or permissible) human experience will determine the degree of control. But that there is a degree of control, large or small, that the world is in some measure variable, is a necessary premise for scientific humanism. There is, of course, metaphysical respectability in this; it is tied up with the ancient controversy between determinism and indeterminism, between necessity and probability, with the wide-open world of William James versus the block universe of Hegel. The humanist, however, does not ordinarily enter into the dialectic of that quarrel, nor is he given to making absolute judgments about it, as has been the custom in metaphysics. He is content with assuming that, *to some degree and sufficient to be significant,* the world can be known *and* controlled, that predictions can be made and verified on the basis of human experience, and that changes in nature can be engineered by man.

These are commonplaces in science. They also should be for philosophy. This is still another basic assumption, and one that more than anything else identifies the character of *scientific* humanism.

It is not easy to know on what kind of note to end. Perorations

and codas are usually extravagant and full of bravura. But there is a relatively quiet tone that is nevertheless immensely significant. It is produced by the position that scientific humanism occupies, lying as it does between the extremes of distrust of human experience on the one hand and intolerant confidence in rationalistic formulas on the other. Reinhold Niebuhr may be taken as a possible example of the former, and certain exaggerated sections of contemporary Marxism as an illustration of the latter.

Men like Niebuhr, and others who unfortunately lack his saving quality of genuine and passionate liberalism, find that humanists have always been over-optimistic; they inflate the significance of human intelligence and suffer particularly from the one unforgivable Sin, that of Pride. But man is a fallen creature — there is point, for Niebuhr, in the Christian myth. This the humanist overlooks. He forgets the elemental and perennial tendency of man to spoil all the progress that liberal and humanist philosophies have predicted.

Over-confidence is always to be deplored, and Niebuhr renders an important service in discounting it. But he misunderstands scientific humanism if he attributes to it the easy optimism that characterized, for instance, the French Encyclopaedists. Genuine scientific method can never be proud in an overweening sense. If it does nothing else, scientific method should convince man that his intelligence is precarious and can give only probability; unsubstantiated Pride is not its child, nor is Pollyanna. An enterprise that is provisional and tentative — as all scientific enterprise must be — will not beget a sentimental optimism. But man must also be convinced that, precarious and provisional as it is, intelligence is his only weapon. This is not sinful pride: it might well be the one saving virtue.

From an entirely different quarter humanism is attacked because of this very tentativeness. In fact, the whole failure of nerve with its resulting throwback to totalitarian absolutism is an example of

that attack, one that has been directed from the Left as well as from the Right. There is the feeling in some circles that scientific method with its commitment to hypothesis and probability is not convincing enough, say, for political action. What is needed, therefore, is some unalterable formula, some unescapable rhythm, something that marches on unfalteringly — in a word, a kind of dialectical process. Intelligence may discover such a process, but when discovered it must be held to religiously, even fanatically.

So much has been said about this point throughout that it would be superfluous to launch another defense of the humanistic and "liberal" reliance on tentativeness, or of the accompanying profound suspicion of ideological absolutes. This, however, can be added, and added as still one more assumption of scientific humanism — if there are genuine uncertainties in human experience, philosophy must reflect them. And there are surds and incommensurabilities in that experience as well as neat and logical order: there are discontinuities and gaps (such as are now coming to be recognized by physics itself), inconsistencies and frustrations, evils for which no remedies have yet been discovered, disappointments and setbacks, whole areas of whirling and pluralistic confusion. Comfortable as it would be to do so, we cannot honestly manufacture a universe, or even a culture, that is altogether smooth and sure.

Although that is an inaccurate way of putting it, because such a manufacturing attempt has been a principal effort of traditional philosophy, whose architects have so desperately sought to blueprint a classic and convenient world. It would be more accurate to say that a *humanistic* and *naturalistic* philosophy, such as is being proposed here, cannot construct that kind of sanitary world. It must accept, instead, the irregularities and uncertainties of human experience, refine them according to the general spirit if not always the specific techniques of scientific method, and help to reconstruct that experience so that it will better conserve and implement the

values still precious to man. An introduction to philosophy must be at the same time an introduction to the ways in which human values can be made more meaningful.

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