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NATURE AND HISTORY

WOODBRIDGE LECTURES

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STERLING P. LAMPRECHT

NATURE AND HISTORY

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PREFACE

I WISH at the outset to express my deep appreciation of the honor which I have enjoyed in occupying this year the position of lecturer on the Woodbridge Foundation. To those of us who knew Frederick J. E. Woodbridge as teacher and friend, he remains the source of much inspiration in philosophy as well as of many happy memories. He was a man of unusual wisdom in dealing with human affairs; and this wisdom was based on a clear discernment of nature and its ways. He has had extensive influence upon both his own generation and the generation after him. He did not make "converts" to such -isms as he might, when formally classified by schematists, be supposed to have himself upheld. But he saw the world around him with such clear understanding that those who stood by his side came to see much which they might otherwise have missed. I myself find —and I believe others who engage in philosophy today could quite easily say the same thing—that I can hardly distinguish what in my own views I owe to him and what I may have somewhat independently added or modified. For what I may have independently added or modified surely stems from what he enabled me to discover from the vantage point of his frank and disinterested concern with man's place in nature. The Woodbridge tradition—for realization that there is a Woodbridge tradition is growing among us year by year—is not like the stoic tradition: it does not consist in the continued repetition of an orthodoxy of profession and belief. The Woodbridge tradition is rather a

sensitive manner of viewing the varied forms of human life and experience as conditioned by their context within the pattern of natural events. It is a realism which finds in nature the source, the environment, and the destiny of all that occurs.

A story may illustrate the realistic quality of Professor Woodbridge's mind. Professor Woodbridge himself told me the story. A young woman once came to him when he was Dean and expressed a desire to take a Ph.D. degree. He asked her what she wanted to work on. She replied that she expected him to assign her a field of investigation. He was always adversely critical of those who hunted up a subject-matter in order to earn a degree; he thought of degrees as certifications, by those in a position properly to judge, that students had reached a measure of success in investigating a subject-matter of vital interest to them. So he sent the young woman away from his busy office, suggesting, on the spur of the moment, that she read Locke's *Essay* and Darwin's *Origin of Species* and return to him when she had something important to say about those two books. Two years elapsed, and Professor Woodbridge had almost forgotten the incident when the young woman came again to his office and refreshed his memory of their first conversation. "Well," he inquired, "and what did you discover about Locke and Darwin?" "I discovered," she replied, "a difference in the relation between the beginning and the outcome in the two books. For when Darwin began, he had pigeons; and when he finished, he still had pigeons. But when Locke began, he had the world of many objects about him; and when he finished, he found that that world had disappeared from view and had become a problem of knowledge." Then Professor Woodbridge, tell-

ing the story, added that he felt like conferring a doctor's degree on the young woman on the spot.

Professor Woodbridge never lost his subject-matter in the course of his investigation of it. Analysis, whether scientific or philosophical or literary or political—analysis, he maintained and consistently exemplified in practice, presupposed a subject-matter to be analyzed. He was, in just this sense, profoundly realistic. He pointed out that analysis might well reveal much that earlier was not suspected to lurk within the subject-matter; but he never took the products of analysis as constituting the essence or the totality of the subject-matter analyzed. Ideas are tools whereby some phases of one's subject-matter are disclosed. In exceptional cases tools may be utilized to do work upon other tools, and ideas may be utilized to analyze other ideas. But normally tools and ideas are means of handling materials which are not tools and ideas. They are means of handling selected objects in nature. We might say, if we wished to put the point in technical language, that philosophy may in exceptional cases be epistemological in character but is normally more concerned with the natural objects that are prior to knowledge. Epistemology, if a philosopher wishes to make it his specialty, is certainly not a preliminary to other branches of philosophy. For until we have knowledge—until, indeed, we have much knowledge, and knowledge of things other than knowledge—we cannot properly hope to come to know what knowledge is. Professor Woodbridge thus followed the Greeks, rather than the moderns, in his method of philosophizing. Thoroughly versed in Locke and Berkeley and others who speak of our subject-matters as consisting primarily and initially of ideas in the mind, he was yet never lured into imitating their

procedure. He was Aristotelian in taking *phusis* as the main subject-matter of philosophical analysis. He interpreted Plato—and, I think, correctly—as recognizing that human affairs and the world in which these human affairs occur are going on around us before our ideas of them are formulated.

The five lectures in this book, I should like modestly to claim, stand in the Woodbridgian tradition in the sense in which that tradition has been explained. They involve a different conception of philosophy than is popular in certain quarters today. We frequently hear even enlightened philosophers maintaining that philosophy is concerned, not, like the sciences, with conclusions about things, but with the method of investigating things. Philosophy is thus reduced to the lesser role of methodology. For it is a lesser role. Methodology, without keen attention to the nature of the subject-matter to the elucidation of which method is to be applied, is bound to be doctrinaire; it is likely to be a partisan plea for some limited body of understanding instead of a measuring of the degree of understanding which a given method may yield. An empirical attention to observable facts is often a condition of wisdom; but when empirical-mindedness is turned into a doctrine of empiricism, it leads to the bizarre position—at least it historically led to the bizarre position, as all readers of Locke's *Essay* know—that, in knowing, we are not enabled to determine what things really are but only how, successfully, to deal with them. This amounts to barely more than the strange contention that we can best deal with things when we do not try to know what they really are.

If we decline to deflate philosophy into methodology, we need to be alert to select the correct alternative to this view. We need not run to the extreme of supposing that

philosophy, since it seeks to understand the world, is more privileged than are the sciences to discover what are nature and its ways. Knowledge is not made more adequate by calling it philosophical. Knowledge is true opinion accompanied by reason, as Aristotle long ago said; and when a man comes to know something, it matters nothing to the genuineness of that knowledge whether we call him who knows a scientist, a philosopher, or a man in the street. A philosopher cannot, *qua* philosopher, properly seek to correct a scientist. Much less can he properly seek to enunciate some speculation as if it had a "higher" degree of truth than the "mere" scientist sets forth. He may, however, do something which the scientist normally does not do, unless the scientist happens to be trained philosophically and have leisure to stand apart from his special line of investigation and to take the measure of his own accomplishment. He may point out the area of nature to which the scientific truth is pertinent and the area of human interest to which the scientific truth is relevant.

Philosophy, thus conceived, is a means of estimating the function and ontological significance of the various arts and sciences. I do not speak of metaphysics in that way. Metaphysics I regard as one of the sciences, as much as physics and history, of which philosophy is called upon to estimate the function and significance. But the study of metaphysics need not be discussed here: it is expounded in the lectures that follow. Philosophy is more than metaphysics and physics and history: it is an appraisal of the way in which the sciences severally lay bare phases of nature's intricacies. For nature, as Professor Whitehead, used to say, is inexhaustible. None of the sciences alone, not all of the sciences together, can exhaust the profusion of nature's traits and processes of becoming. Philosophy cannot prop-

erly correct or supersede the sciences. But unless philosophy can give a reasoned understanding of the relation of the truths of the sciences to the complex being of nature, the purport of the sciences will never be fittingly grasped.

The question may perhaps be raised whether or not philosophy, as here conceived, is systematic. The answer to this question cannot be given without a preliminary comment on two distinct meanings of systematic. Philosophy is surely systematic in the sense that it seeks consistency through its parts and such comprehensiveness as it may be enabled to attain. It is, as William James said, "an unusually obstinate attempt to think clearly." But it is not, and it cannot be, systematic in the sense of laying down methodically the first principles of the cosmos. The very supposition that the cosmos has first principles is a specious notion. We men have first principles. The cosmos tolerates our adoption, now of these first principles, now of those; but it does not itself compel us to accede to any single privileged set of first principles. When we approach the cosmos with certain concerns, our proper first principles will be those of physics; when we approach the cosmos with other concerns, our proper first principles will be those of history. But to suppose that there are certain *absolutely* first principles is to try to approach the cosmos simultaneously from the point of view of all concerns, actual and possible. And to try to approach the cosmos thus is not really to approach it at all: it is virtually to stand still in vain pretense and to let the cosmos pass us by in utter disdain.

One further comment I should like to make in defining a limitation which I myself regard the following lectures to exhibit. I find it important, in thinking of man's place

in nature, to distinguish what Santayana, with his gift of happy phraseology, calls natural basis and ideal fulfillment. Both of these two correlative matters deserve treatment. But five lectures impose severe curtailment of expression. In the ensuing lectures I am engaged in commenting on the natural basis of certain enterprises such as history and physics and the art of human living. I have not had time, and I therefore have not complicated my task by endeavoring, to consider also the ideal fulfillment to which these enterprises lead. I warn my readers that, in my conception, I should have to say quite other things if I went on to consider the ideal fulfillment of these enterprises. These further things, I trust, would not prove contradictory to the things here said; but they would, I also trust, be altogether different, somewhat supplementary, more final. Even if I had had occasion to deal with final things, I should regard my judgments as my last judgments but not as nature's last truths. There are culminations in nature, and every man is warranted to choose, as his goal of loyal effort, that which he deems good. But nature-as-a-whole has no culmination and is headed to no inclusive good. That is why treatments of ideal fulfillment are quite properly more indicative of aim and temper in the philosopher than of drift or bias in nature. With the natural basis of the various human enterprises, however, a more direct path may be trod by the philosopher; for many diverse, even incompatible, ideal fulfillments may rest on the same natural basis. Even then, it should be added, only something of the natural basis of the human enterprises has here been, indeed ever could be, selected for comment. There is always more to be said. But it ought, I think, always to be more of the kind of things here said. We phi-

losophers ought not to waste words in feigning to elucidate the natural basis of nature itself; for that which is the natural basis of all else cannot properly be regarded as having a natural basis outside itself.

STERLING P. LAMPRECHT

East Peacham, Vermont
July 1, 1949

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NATURE, THE SCENE

THE two most important philosophic disciplines, Professor Woodbridge once remarked in conversation, are metaphysics and politics. This statement, seemingly provocative in omitting reference to other possible fields of inquiry, was not meant to disparage studies in those other fields. It was not merely an expression of his personal interests; it was not at all an effort to make those personal interests normative for other thinkers. It was rather a judgment upon the mélange of traditions which constitute the history of philosophy from the Greeks to our own day. It was an evaluation of the purport of the philosophic enterprise. It was a presentation of a conception of philosophy which, while in a sense adding one more system to those previously set forth, would at the same time serve as an appraisal of the significance of all systems, his own included. But it phrased that judgment in unconventional language and calls for some words of comment.

The common division of philosophy has long been into three main branches: theory of nature, theory of man, and theory of knowledge. Professor Woodbridge himself often utilized this common division in arranging Aristotle's writings in three groups: the physical writings, the ethical, and the logical. He often quoted with approval the last chapter of John Locke's *Essay,* where Locke called physics, ethics, and logic "the three great provinces of the intellectual world" and said that they include "all that can fall within

the compass of human understanding." [1] Aristotle and Locke, it will be remembered, were two of his favorite authors. He had no intention of rejecting this more ordinary classification of the branches of philosophy. He was rather formulating a principle of criticism whereby the many -isms or systems of philosophical history may be judged for their adequacy or their degree of wisdom. That is why, in the conversation alluded to, he did not have occasion to include a reference to logic. But no one who knows him and his work will for a moment accuse him of slighting logic. His St. Louis paper on *The Field of Logic* [2] remains one of the milestones in the history of logic in the United States. Taking logic for granted, he was seeking to show that all philosophical systems can best be understood and appraised by the way in which they treat a fundamental issue. There are, he was saying—and it is easy to acknowledge the obviousness of his simple point—there are two primary existential subject-matters that demand philosophical treatment, namely, the world in which men find themselves involved and the course of men's involvement in that world. A fundamental concept of metaphysics is nature, and a fundamental concept of politics is man. All philosophies, Professor Woodbridge was maintaining, though they pursue many and varied questions, are conditioned in their positions on all these other matters by the views they express or the assumptions they make concerning the relation of nature and man. His own conclusion on this central problem of philosophy is that no naturalism is sound that is not also humanistic, and that no hu-

[1] Locke, *Essay Concerning Human Understanding*, Book IV, Chapter 21, Sections 5 and 1.

[2] Reprinted in *Nature and Mind*, New York, Columbia University Press, 1937, pp. 56–78.

manism is sound that is not also naturalistic.[3] Something of what, in his assertion of it, this conclusion means, will become apparent as our discussions continue.

There is a further difference to be noted between the traditional classification of branches of philosophy and the remark quoted from Professor Woodbridge. The former speaks of physics and ethics; the latter, of metaphysics and politics. There is not necessarily any difference of meaning in the two bits of language. But Professor Woodbridge was seeking for sensitive and timely terminology, and his intent is worth probing. Physics has become in our own day a name for but one among many branches of natural science. Aristotle used it to include much more. He used it for the field of inquiry with which he was dealing in many of his treatises, in the *Physics* to be sure, but also in *On Coming into Being and Passing Away,* in *On the Heavens,* in the *Psychology,* in *On the Parts of Animals,* in the brief tracts *On Memory* and *On Dreams.* And then he went on to show quite significantly that physics, thus understood, leads on into and makes requisite a generalized analysis of existence, which analysis alone can give to the various phases of physical investigations a kind of intellectual unity and an explanation of their systematic interconnections. He did not of course use the term metaphysics for this generalized analysis, because that term was not coined until long after his death, when it came to be applied, by a curious linguistic chance, to one of his most important but previously unnamed works. But he virtually begot the science of metaphysics, if he did not christen it. And Professor Woodbridge, in speaking of metaphysics as one of the two most important philosophic disciplines, is more

[3] Cf. an essay entitled "Naturalism and Humanism," in *Nature and Mind,* pp. 79–94.

faithful to the intent of Aristotle than he would have been if he had used Aristotle's word physics. The meaning of the term metaphysics, explicit in Professor Woodbridge, is implicit in the very treatment which Aristotle made of physical questions: it is so implicit in Aristotle's treatment of physical questions that we can fairly say that he would have anticipated Professor Woodbridge's statement if only he had had adequate vocabulary at his disposal. For, in the first place, physics, even in the inclusive sense in which Aristotle used the term, is not always philosophical in purport or in intent. Many an examination, many a profitable examination, of detailed physical questions can well be carried on without raising big, general issues. In such cases we have physics; but we have physics which, even though it might on another occasion be the entrance into such general questions, is not yet overtly philosophical. That is, much physics (and this is more and more evident as specialization increases in our own day) is not put into the philosophical frame of reference into which it must be carried to be legitimately called metaphysical. Again, in the second place, all branches of physics, all branches of the investigation of the world around us, rest upon or logically presuppose a generalized analysis of the structure of that world. Protests by natural scientists, whether physicists, geneticists, psychologists, or any others, to the effect that metaphysical considerations ought not to be imported into scientific work, are both vain and dangerous. They are vain, because the more specific always involves the more general, whether the occasion be suitable for attending to that more general or not. They are dangerous, because the proclamation of the independence of natural science from metaphysics is but a forlorn hope that certain types of so-called "ultimate" questions may be avoided. And with that hope there goes,

unsuspectedly perhaps but almost unavoidably, some borrowed set of uncriticized metaphysical notions, perhaps Cartesian, perhaps Democritean, perhaps Lockian or Kantian. If these notions are true, only profit will ensue from bringing them out clearly and defining them. If they are false, only profit will ensue from laying them bare, exposing them to amendment or to elimination in favor of some other metaphysical ideas which will better serve as the intellectual framework for the many detailed discoveries of the positive scientists. Metaphysics is important because it cannot be avoided in any thorough investigation of nature that goes beyond the first preliminaries of research and the first announcement of special matters of fact that are not yet put into a context of synoptic knowledge.

In using the word politics for the second important branch of philosophy, Professor Woodbridge was not departing from Aristotelian terminology. Rather he was employing the word in the Greek sense instead of in the contemporary modern sense. He meant by it more than the science of government. It is the field of inquiry with which Aristotle was dealing in his *Politics,* in his *Ethics,* in his *Economics,* in his *Athenian Commonwealth,* in his *Rhetoric,* in his *Poetics.* Sound philosophical considerations require that we rescue the term politics from the narrow and unfortunately confining sense given it in modern times. One cannot wisely separate theory of government from an examination of the entire range of the interests of those governing and of those governed. Politics thus understood includes analysis of all phases of human conduct and actions in the course of individual and social living. It examines the many ways in which men behave when they come into association with one another, even when, as in certain bizarre forms of hermit existence, they seek to maintain themselves apart

from normal associations with their fellows. We ought not to forget, what our grandfathers knew quite well, that economics is really political economy, that is, that economics is really a branch of moral philosophy. The production and distribution of material goods goes on in, and cannot be fairly interpreted apart from, the life of a polis, whether that polis be a city or a national state or a world organization. Similar remarks can be made in regard to education and commerce, communications and religion, industry and the fine arts, all of which, if at times treated apart from their mutual involvements, cannot be adequately understood until put back into their context as descriptive of interrelated phases of human development. Politics does for the various so-called humanistic subjects what metaphysics does for the various natural sciences: it gives them significant relationships and supplies them with organizational concepts. It goes further and defines the normative principles in terms of which all questions of value must finally be decided. No phase of human development can be fully understood except in its political context.

And yet, when all this has been said, it is necessary to add that there is an element of caprice in the statement that the two great disciplines of philosophy are metaphysics and politics. That element of caprice is perhaps a justifiable one for us men to indulge in. Certainly it is one which Professor Woodbridge never apologized for, yet also never forgot. Men are entitled to be particularly interested in themselves and their ways. But if we speak of metaphysics *and* politics, we must not embark upon some dualistic schematism. If we wish to be meticulously correct, we cannot say that we have, for philosophical analysis, both nature and men. We have nature within which there are men, along with many other kinds of things too. Men are as much a part of nature

as oranges or comets. The world around us is not generated out of our experience, is not to be set over against our experience, is not a different kind of thing than what we experience. Rather it is the occasion and the condition, first of our appearance within the world, and secondly of the course our experience in the world then takes. Men could neither be, nor be what and as they are, were nature not what and as it is; but, just as truly, nature could not be what it is, were there not men within it. The principles of a sound politics are but a specialized development of the general principles of metaphysics, that particular specialized development, namely, in which the general principles of metaphysics are carried out in connection with that unique type of natural existence which to us men is, quite properly, the most interesting of all natural existences. A carrot, I take it, would be quite within its rights, if it claimed that the two major disciplines of philosophy are metaphysics and olericulture. The fitting study of carrots would be vegetable life, as the proper study of mankind is man. But metaphysics is the first science for carrots and men alike.

Our natural human caprice often leads us to feature our human ways as an outstandingly significant form of nature's more general characteristics. But our procedure, if a bit capricious, is also quite pardonable. It is pardonable, however, only if we do it consciously and with a touch of humor, only if we do it, as Spinoza did it, with sophisticated recognition of the priority of nature to man. Spinoza, you will remember, was another of Professor Woodbridge's favorite authors. He was one of Professor Woodbridge's favorite authors because he boldly placed man in the context of nature and hence formulated metaphysical principles as the only legitimate prelude to a philosophical analysis of human affairs or politics. The genius of Spinoza is not to be

measured by the percentage of his propositions which one happens to regard as true, much less by the congeniality of his formidable vocabulary or the adequacy of the formal proofs he offers for even his true propositions. Spinoza's genius is to be measured by something more basic in his way of philosophizing, namely, by his conviction that, all things considered and in the end, only that view of man will prove sound which can be shown to rest upon, and can be elaborated in the light of, a sound theory of nature. We may continue, on account of our human status, to divide philosophy into the two disciplines of metaphysics and politics. But we ought, in so doing, always to remember two things, first, that the former is logically prior to the latter, and, secondly, that the latter provides, in connection with a special subject-matter, a kind of experimental verification of the former. This special subject-matter, which is of course human affairs, may be more intimately known to us who are philosophizing, but is cosmically no whit more privileged, than any other. Politics is related to metaphysics in exactly the same general fashion in which olericulture is related to metaphysics. It is because nature is what it is that carrots and men are what they respectively are; and, reciprocally, it is from the study of carrots and men, and indeed of myriad other things, that we may gain fuller understanding of what nature is.

Metaphysical principles, even if formulated late in the historical development of human speculations, exercise a logical supervision over all other lines of investigation. Therefore, when we go on from metaphysics to politics, we are but exemplifying, in the concrete specificity of a particular field, one of the possible, one indeed of the actual, ways in which the general course of nature finds determinate expression and implementation. We can keep poli-

tics from being crudely romantic, only if we study our political problems as complications of our general metaphysical issues. Neither politics nor olericulture is in any sense a deduction from metaphysics. Both of them, and all the other sciences that deal with chosen phases of nature, have their special data which the general science of metaphysics does not observe and their appropriate concepts which it does not pause to develop. They therefore serve to reveal to us that nature would be incompletely described in terms of even a true and comprehensive metaphysics. Many specialized studies are requisite to give accounts of the many types of determinate existence which occur as concrete fulfillments of that course of nature which the general principles of metaphysics abstractly describe—which occur, it should be added, provided that nature, in its historical development, chances to take certain specific turns. Doubtless nature in its historical development might have taken other turns than those it has actually taken. In that case men and carrots might not now exist; and politics and olericulture would then be fanciful systems of non-existential sciences, and quite other sciences, which we of course cannot formulate because we have no material to serve as subject-matter for their formulation, would be requisite to describe the world as it would then be. But nature has taken the turns it has taken. There are men and carrots. And so for carrots olericulture, and for men politics, can best indicate what, for them respectively, the course of nature fully means. Men and carrots, as two determinate forms of existence, are different in the conditions of their genesis, the course of their development, and the values of their fulfillment. That is why politics and olericulture are two distinct sciences instead of two names for the same body of knowledge. To the complacent carrot or to the arrogant

man, olericulture or politics may seem a self-sufficient science. But complacency and arrogance are intellectually as well as morally dangerous. The shrewd carrot and the wise man will discern that the many different kinds of determinate existence disclose an embracing nature with its generic traits, and will thus welcome for their special sciences the instruction of metaphysics.

Man's place in nature has been recurrently a theme for philosophers across the centuries. But the treatment of it which is here implied, though far from original, is also far from receiving universal assent. The position maintained in these lectures may be clarified, may perhaps even be reinforced, by putting it in contrast with two opposed positions.

On the one hand, there are some philosophers who have begun their analysis with nature, have defined nature as it is apart from man, and have taken nature, thus stripped of one of its significant manifestations, as being what nature is "in itself." This way lie all the materialisms of history. Actually, nature without man in it is not nature as it is. Nature without man in it is no more nature as it is than a camera is a camera without its lens, or a solar system is a solar system without the planets which revolve around their sun. There was quite probably a time when nature did not contain men, and there may indeed be future times when again nature will not contain them. But even at such times, nature is potentially the scene of human beings and their civilizations and their moral and cultural developments—so that any conception of nature would be false which took no account of at least the possibility of man's presence. This point may be put in even stronger terms. Nature may well have many a potentiality which, so far as our knowledge goes, has not been brought into actuality

yet, many a potentiality which may not chance to be realized as the consequence of any turn which nature may happen to take in any period of time, however long, which we choose to mention. To regard nature as definable without consideration of all the fulfillments it has actually manifested—even to regard it as definable without recognition of further potentialities which, beyond the profitable range of our limited powers of imagination, may yet lie within its ample resources—this is to foist upon philosophy an utterly inadequate conception and to substitute a bare and denuded ghost for what is a fertile and fostering source of manifold kinds of determinate existence. Materialists are prone to deny that man's rational reflections and moral choices play the role which experimentally we find those human processes to have; they are prone to deny these facts because they cannot state these facts consistently with the views they express concerning nature as it is prior to or apart from the occurrence of man and his ways. Critics of materialism do not go far enough when they protest that the materialistic conception of human nature is unsound; they should go further and protest that the materialistic conception of nature is also unsound. We should so treat nature, nature as it is apart from man's occurrence, that human processes, when once man comes to pass in appropriate conditioning circumstances, may be regarded as the exploitation or utilization, in a uniquely human fashion, of traits which nature generally is acknowledged to have. We should not understand man better if we first blinded him or ignored his optical organs and his visual experiences. There are men who cannot see; but we can see that the nature of man is not properly understood in terms of that state of privation. So we should not understand nature better if we first eliminated man from con-

sideration, or insisted on taking as typical of nature that situation in which man is not present. We cannot take a just measure of what nature is by seeking to emphasize some state of its denuded being. Recent philosophical writings are full of warnings against "the fallacy of reduction." But these warnings do not always go far enough. They give sound advice against such errors as interpreting life as "nothing but" the physical-chemical properties of protoplasm, or as interpreting moral aspiration as "nothing but" a covert impulse for food or sex. We need to carry the point further. We need to insist that nature be so defined as to make it the scene of all that it has as yet brought to pass and of all that it may still bring to pass. Whatever other traits nature may also have, it at least has the trait of vast resourcefulness.

On the other hand, there are some philosophers who begin their analysis with man, take human experience as a typical form of existence, and thus read into the rest of nature the mental and moral developments which, so far as we know, are a distinguishing mark of humanity. This way lie all the idealisms of history, the panpsychisms, the animisms, and, to a large extent, the theologies. It is a principle of physics that to every action there is an equal and opposite reaction; it seems to be a principle of intellectual history that to every error there is an equal and opposite error. Idealisms can be viewed as reactions, often as quite unsophisticated reactions, against the materialisms. Diligently framed so as to recognize what specifically man is in his full development, they go to the extreme of treating man's environment as more of the same kind of thing that man is. Carrots, if I may again refer to so lowly a form of determinate being, would be inclined, if there were idealists among them, to treat rocks and stones as subtle forms of

slowly maturing vegetable life. Idealists endanger the basis of a sound humanism by obscuring the distinctive form which nature's general traits assume when man occurs and grows into his full powers. They build up superstitions by blurring the distinctions among the various kinds of determinate being which are produced within nature. Because they find that man cherishes ideals and efficaciously entertains designs, they dream of some inclusive ideal which is nature's and fancy some cosmic designs as lying behind the various contingencies of nature's course. They feel quite secure, of course, against the charge of reductionism. But one might query whether they did not merely commit that fallacy in a new and occult fashion. For if the world around man is given the special mental and moral traits which are man's, man is virtually put once more on a par with other kinds of things. There is little difference between demoting man to the level of non-human forces and elevating non-human forces to the level of man. In both cases the peculiar prerogatives and distinguishing marks of the human part of the natural world are ironed out into allegedly kindred uniformity of man with the rest of nature. The idealisms of philosophic history may fairly be said to be metaphysically more offensive than the materialisms. Materialism results in a distortion of certain facts about human nature because it is built up by an emphasis upon the respects in which, for example, human digestion resembles artificially controlled reactions in a chemical laboratory. This picture, however, though woefully incomplete, is yet a part of the truth which ought to be said about man. Idealism, however, results in sheer distortion of certain facts about the brute forces of non-human character because it is built up by a treatment of these forces as disguised instances of such mental and moral life as

man has. This picture is worse than incomplete: it is, in the light of quite sufficient evidence to the contrary, wholly false. The former picture is, to be sure, an instance of insensitivity; the latter, however, is an egregious error.

In contrast with both the types of philosophy just criticized, the position advocated in these lectures stands in the tradition which extends from Aristotle (or earlier) to Woodbridge (or later). Nature is here a name for the multiplicity of diverse existential things, coming into being and passing away, related to one another now in this way and now in that, with ceaseless change and inexhaustible variety. Nature cannot be summarily spoken of as any one kind of thing or process. It is not a vegetable nor an animal, though both animals and vegetables occur in its course. It is not a machine nor a mechanism, though it contains mechanisms and machines. It is not the outworking or unfolding of a purpose, though purposes are entertained and effectively pursued within it. It is not a system, though it contains many systems, solar, economic, physiological, political. Its being is not *percipi,* though many of the things in nature lend themselves in certain circumstances to being perceived. It is not mind, though it flowers at times into beings who feel, imagine, and think. It is not a substance, nor a quality, nor a relation, though many substances, qualities, and relations may be discovered within it. Nature is not to be defined in terms of any of the many sorts of thing which come about in its historic development. It is, to borrow Hume's language, all the many matters of fact which occur from time to time and in this place or that. It is all these matters of fact, and more. To study nature is to inquire concerning the complex structural arrangements, the generating conditions, the farther rela-

tions, the causal forces, the immediate and remote consequences, the uses and values of any of the things we come upon or ourselves are. Every object of natural knowledge, along with the act of knowing that object, is always and without exception contained within a wider situation which extends beyond what is known and beyond the act of knowing—and that wider situation is merely some more of nature. Nature, including all the things known to exist, includes also the context, the enveloping situation, in which the particular things known come into being, are sustained during their careers, and eventually disappear. The past and the future are as much nature as the present; for the existential relations of what is present involve indefinitely vast stretches of time as much as vast extensions of space. Wherever and whenever we are led in our investigation of any chosen existential subject-matter, that to which we are led, as something relevant to consideration of our subject-matter, is nature still. Whatever we examine, whether a single atom or a stellar system, a burial rite or an age-old culture, a sunspot or northern lights, an explosion or an electron—whatever we examine leads us on to further existential materials and forces, and gives us a sense of nature as containing, sustaining, and conditioning that which happens to be our point of departure into its myriad concerns and ways.

Nature is more than all the determinate matters of fact which we could mention in any list however ingeniously exhaustive. In other words, our lists will exhaust us long before they will exhaust nature. We may refer to nature-as-a-whole in certain poetic phrases of our literature. We may refer to it as the heavens above, the earth beneath, and the waters under the earth. We may refer to it, in Bishop

Berkeley's incomparably fine phrase, as the choir of heaven and the furniture of earth. Such expressions have a suggestive flair. They suggest the magnitude of the contexts within which the specific things we are able to list find their *locus* and role. Columbia University is in New York, New York is in the United States, the United States is on the surface of the earth, the earth is in the solar system, the solar system is in the stellar system. We may proceed in similar fashion to place an event in certain stretches, shorter and longer, of time. But we never come to a stopping place, except by virtue of the fact that we cannot ourselves proceed further. We stop, but nature does not stop with us. Our stopping is not due to the discovery of any last limits to nature. Our lists of things in nature are egocentric in their specialization: they begin with the immediate in space and time and with the more striking features of our personal experience, and then they go out in all directions as far as our industry, our patience, and our skill carry us. But nature has no center and no circumference. Only with poetic metaphor, not with scientific precision, can we characterize the contents of the whole of nature.

From the fact that the word nature is a singular noun, we ought not to infer that nature is therefore one thing, or one type of thing, or one established system of things. We are all prone to refer to nature as "it": we are driven by the exigencies of linguistic structure to employ that vague pronoun. But properly nature is not an *it* at all, but the locus and condition, the occasion and context, of every particular *it* we may happen to notice or choose to mention. The word nature is an omnibus word which enables us to deal synoptically with what we have neither time nor information to name *seriatim*. It is, in Professor Costello's happy phrase, "a collective name for quite a mess

of miscellaneous stuff." [4] To speak of nature is, with Lewis Carroll's penetrating walrus,

> To talk of many things;
> Of shoes—and ships—and sealing wax—
> Of cabbages—and kings—

and of an endless variety of other things, which, in the seeming nonsense of the Walrus's disjointed utterance, are yet quite sensibly provided for.

And then further, there is no warrant for supposing that the particular things we have discovered, numerous as they are, are a full measure of nature's capacities. Nature includes not merely all actual matters of fact, but the manifold and plural potentialities of all these actual things. There is of course determinate being or, in the usual translation of Aristotle's term *enérgeia,* actuality. And, as Aristotle took occasion to point out several times, actuality is prior to potentiality—prior in existence, prior in logic, and prior in order of discovery. The immediate and insistent presence of the actual in our experience has often led philosophers to overlook potentiality in formulating their theories and thus to speak of nature as a finished collection of elements which, if endlessly reshuffled and redistributed, are yet forever their own identical shelves. The classical systems of modern philosophy conspicuously erred in this respect. In spite of vastly increased knowledge of details concerning specific matters of fact in the world around us, modern philosophers have had less discerning views of the sweep of nature than some of the ancients, particularly Plato and Aristotle. A requisite for any sound view of na-

[4] Cf. his essay on "The Naturalism of Woodbridge," in the cooperative volume *Naturalism and the Human Spirit,* ed. Y. H. Krikorian, New York, Columbia University Press, 1944, p. 299.

ture is a recognition of the vast amount of potentiality in any and every actuality. It was just because Plato thought of nature as being much more potentially than it is at any time actually, that he could properly refer to nature, as he did in the *Timaeus,* as the "home for all created things" or the "receptacle of all becoming." [5] Nature is a reservoir of many more potentialities than can ever become actual; for the realization of one potentiality sometimes means the elimination of alternate potentialities from possibility of actualization. The history of the world is not properly to be thought of as the endless rearrangement of even an infinitely vast number of particles which occur now in one and now in another combination or collocation. Carrots and men do not come about by such mechanical rearrangements: they grow from seed. They come about because certain antecedent substances had the potentiality of becoming, in certain circumstances, carrots and men. Or, to put the point with greater generality, change is not the passage from one actuality to another actuality, but the passage from potentiality to actuality. Since the potentialities of a substance are often incompatible and are always plural and indeterminate (while the substance is actually one specific and determinate thing), nature, full of potentialities, cannot possibly be summed up in any one formula or presented in any one picture.

The effort to present a picture of nature is what results in the making of cosmologies. The history of philosophy is full of cosmological systems, from that of Anaximander to that of Whitehead, to mention two of the most brilliant, one quite early and the other fairly recent, in our European-American cultural development. A cosmology, when done with skill, has its uses. It may bring together in helpful

[5] Plato, *Timaeus,* 49a.

synthesis many of the things which a thoughtful person has come to know; it may indicate relationships and systematic bearings that might not otherwise have been noted among things. But the best cosmology is far from being an adequate substitute for metaphysics. The pictures given to us in even the best cosmologies are not pictures of nature: rather they are pictures of certain stages in the growth of human knowledge. No cosmology can hope to mention everything, much less, to put what it does mention in its total relationships to everything else. Every cosmology, Anaximander's and Whitehead's and the others, if it puts some chosen items in a selected context, can itself be in turn put in its context. This context may be the cultural medium in which it was formulated, or—what is by no means the same thing—the cultural medium in which it is read, interpreted, and perhaps appropriated. A cosmology is a map; and like a map, it is bound to be a picture of some area but not of other areas, much less of all areas. But metaphysics is the science of the generic traits of existence, wherever and whenever existence is considered. Cosmology is therefore bound to become spurious and misleading as soon as it is taken as having metaphysical significance. And that is the way, unfortunately, in which it is usually taken.

A cosmology, it might be said, is a kind of mule. It is the barren offspring of the union of metaphysics and natural science. Its parents are both noble animals, and it, as has been said, has its uses. But the union that produced it, one might say, is not natural, and the offspring is not normally fruitful. Natural science, on the one hand, has, as one of its functions, the presentation of pictures of selected portions of nature: pictures of the reaches of the solar system, of the stellar system, of the complex internal structure of the atom, of the evolution of species of living

things on our earth, of the geological upheavals which have brought the Rocky Mountains into being, of the slow building up of the delta of the Nile. These pictures are good pictures just because they make no pretense of being more than they really are. None of them is offered as a picture of what nature is. Metaphysics, on the other hand, has the function of giving us generalized statements of the basic traits of existence. A metaphysician, if he is sufficiently wise, will leave to the natural scientist the determination of what specific causes are at any one time operating, and will seek to state the nature of causality; he will leave to the scientist the determination of what particular materials are requisite to the manufacture of certain desired metals or salts, and will seek to state the nature of matter; and so forth. Metaphysical principles, if correctly worked out, will apply to any and every thing that exists. But metaphysical principles are necessarily highly abstract, and pictures are inevitably quite concrete. Both these intellectual pursuits, abstract formulation of general principles and pictures of chosen areas of nature, are thoroughly legitimate; both kinds of knowledge are useful. But cosmology tries to perform both functions in one grand synthesis. It endeavors to make a picture which will contain and supposedly will supersede all other pictures; and, confusing inclusiveness with generality, it purports to capture in its formulae the general truth about the whole of nature. It is science grown pretentious, hence woefully fallible; it is metaphysics grown concrete and pictorial, hence narrowly confining in the range of its reference.

Characterization of nature as a reservoir of potentiality is not properly an invitation to wild speculation concerning the future, nor is it warrant for peopling the far reaches of nature with figments of an indulgent imagination. A sound

theory of nature must steer a course between the Scylla of supposing that what we know to have come to pass is exhaustive of nature's resources and the Charybdis of allowing our hopes or our idealistic raptures to lure us into credulity. We can, indeed we must, affirm that nature includes all the things we have found. We cannot, indeed we dare not, affirm that nature does not include much that we have not found. Universal negative propositions concerning the contents of nature, however enlightened they may seem to the semi-sophisticated, are for us human beings somewhat premature. If, for example, we affirm that there are in nature no centaurs and no Chinese dragons, we may indeed be correct; but we yet remain in ignorance of possible forms of life in distant places and at distant times. There may well be in nature many things and many possibilities that are not dreamed of in any cosmology. But belief in the existence of particular things and particular types of things ought to linger upon evidence. Beliefs are sometimes entertained and defended on the ground that what they affirm is not in contradiction of any accredited knowledge. Such beliefs usually rest upon a longing to make the universe aesthetically delightful or emotionally congenial or morally good; but rapture is not evidence, and romance is not understanding. When we confess that nature is doubtless much more than what we, in the light of the information which all the sciences enable us to affirm, can yet specify, we should be taking an attitude of intellectual humility that requires us to await further instruction from the course of events and our own experimental investigations; we should not be embarking upon the claim that nature, beyond the range of our experience if not within our experience, contains what we would prefer to exist, or what must exist in order to fulfill our ardent hopes.

A comment may be advisable at just this point on the use of the term supernatural. This term, as it is normally employed, is an unfortunate misnomer. We may grant with Thomas Hobbes that "words are wise men's counters, they do but reckon by them"; [6] for we are under neither logical nor linguistic necessity to make any one definition of any one term. But in all definitions, we ought to be cognizant, not merely of prevailing usage, but of the type of problem relatively to which our definitions are offered. We may define nature in contrast to art. Then music and painting, indeed much that we most value in human civilization, would be matters of art, not of nature. We may define nature, as the late Professor Whitehead did, as "closed to mind" or as "self-contained against sense-awareness and against thought." Then we are engaged in a specialized investigation of certain selected problems and are not, as Professor Whitehead several times himself insisted in conversation, justified in taking our judgments out of the context of those investigations and in regarding them as giving an adequate analysis of the actualities and potentialities of the existential world. So we might on occasion wish to define nature in terms of inanimate substances and forces. And then men and even carrots would not be natural objects. These and all such definitions of nature may help in clarifying certain relationships within a chosen field of interest. But none of them is relevant to metaphysics, which is concerned with the generic traits of existence as such, that is, of any and all existence.

Nature, as the term is used in these lectures, is the most embracing possible context for a determination of the most general truths about existence. It designates that context to which all pairs of antithetical terms (body and mind,

[6] Hobbes, *Leviathan*, Chapter IV.

the animate and the inanimate, matter and spirit, the human and the divine) must be referred in order to establish their fruitful meanings. And surely, no matter how the term nature be defined, it would be linguistically preposterous to call the arts supernatural, to call sense-awareness and thought supernatural, or to call men and carrots supernatural. The word supernatural is normally introduced into metaphysical discussions because those who employ it have some open or covert theological concern. The intent behind its use may be innocent; but its import is to confuse and impair the enterprise of unbiased metaphysics. Its import is, in the first place, to disparage the natural as an inferior, even a degenerate, sort of existence, and then, consequently and in the second place, to suppose that sufficient grounds have thereby been given for belief in another kind of existence for which—and this is perhaps the essential point, though most theologians would be reluctant to admit the point—evidence is not required such as all other special sciences or bodies of knowledge give for their subject-matter.

No attempt can be made in these lectures to review the proffered evidence for the existence of the gods or the course of providence or the occurrence of divine grace. But a statement can be made, and can be made briefly, of the due relation which theology properly has to metaphysics. In the sense of the term nature which is required for metaphysics, we cannot pass beyond nature, unless we cease to explore the mazes of existence and prefer to play with the implications of some postulational system which has, as we should expressly recognize, no existential reference at all. If theologians wish to employ the language of gods and providence and grace metaphorically for certain values which may guide aspiration, then they are concerned with a poetry by which persuasively to set forth the ideal

fulfillment of which natural existence is capable. No ideal is valid, however, unless it is potential in nature; and therefore, theology, conceived as an imaginative venture in value theory, would depend, among other things, upon its compatibility with sound metaphysical principles. If, as is much more frequently the case, theologians spurn the status of moralists—and they often, ironically enough, are the ones who speak condescendingly of "mere morality"—if they rather claim to be dealing with existential forces and substantial existences, then they are seeking to give to their theories the status of being one of the special sciences. Theology, thus conceived, would be related to metaphysics in the same way in which olericulture and politics are related to metaphysics. It would have its specially selected area of existence for investigation, its proper concepts, its hypotheses, and it would need its supporting evidence—all of which of course holds true also for olericulture and politics, for genetics and economics. It would be a carrying-out, in connection with its chosen part of nature, of the general principles concerning existence which metaphysics defines and establishes. It would be, to speak quite literally, another natural science, and its subject-matter would be within nature. Similarly, many further natural sciences might be developed and added to those we already have, if, in the course of the further investigation of nature, new types of existence, new in their occurrence or new merely in their discovery by man, were brought to light. But until and unless that happens, such sciences are idle pretenses, and reference to their subject-matter as supernatural is sheerly obscurantist.

Nature has aroused many sorts of emotion in men: it has been revered with piety, praised in eulogy, disparaged with venom, defied in petulance. But none of these reactions is,

relatively to the whole of nature, a wise indulgence. Nature is the source of our joys and of our sorrows alike. Neither optimist nor pessimist has taken its full measure. Man, as one form of natural existence, is certainly not master of nature nor its helpless victim. Nature has brought man to pass and now sustains him for a period; nature likewise limits his achievements and denies to him much that he would have. Nature is neither solicitous about man nor alien to him. Pessimism and optimism, indeed all emotional reactions to nature-as-a-whole, are egocentric diseases: they reflect what man is more than what nature is. If Wordsworth be correct in wailing that "Little we see in Nature that is ours," he was yet incorrect in the intent of his oft-quoted line. For though it is true that we see little of nature in comparison with the vast stretches beyond our range of vision, it is false that we always find the world around us "out of tune" with our wholesome moods or have legitimate grounds to wish we were in a world of fable and myth. There are times and occasions when we need to resign ourselves to forces we cannot control, and there are times and occasions when we are entitled to be encouraged in our pursuit of desirable goals. But both sorts of times and occasions are fragments of nature immediately about us: they are not the whole of nature. Human moods, like sunshine and rainfall, though occurring within nature, are reflective of local and temporary conditions. As cosmologies are *pre*mature interpretations of nature in terms of partial knowledge, so pessimism and optimism are *im*mature interpretations of nature in terms of subjective emotional depressions and ecstasies. Metaphysics is not the place for either rapture or despair.

The characterization of nature as "quite a mess of miscellaneous stuff" may seem to exclude the possibility of a

science of metaphysics. But nature, however miscellaneous the types of things it contains, is not therefore a welter devoid of pattern. The many things which appear in the course of nature are, as has been said, plural, varied, and beyond our powers to list in their multiplicity. But the processes of their coming into being and passing away manifest a cosmic order that is regular and uniform. The principles of metaphysics are statements, it may be said, not of what nature contains, but of how nature behaves. Perhaps this way of expressing the point is a slight exaggeration; for, as has already been said, we are entitled to affirm of nature-as-a-whole that it is vast, that it is resourceful, that it is inexhaustible. But these judgments about nature collectively are in a sense negative: they are warnings against attempts to encompass nature in any cosmological formula rather than positive analyses of what existence universally and distributively is found to be. The more constructive principles of metaphysics are generalized descriptions of the way in which change occurs. The science of existence *qua* existence, to translate one of Aristotle's phrases, thus proves to be, to express his essential thought, a science of the course of becoming. The generic traits of nature are to be found in the pattern of events in which all things come about, endure for a time, change, and pass away.

Metaphysical inquiry is not concerned, of course, to solve any of the special problems, theoretical or practical, which arise in connection with particular interests. It does not seek to specify the kind of matter needed for the manufacture of atomic bombs, the kind of agency competent to cause northern lights or to abolish war, the kind of end to which our natural resources may most profitably be put. These problems are for physics or politics or the industrial or fine arts. But neither is metaphysics unconcerned to

observe the way in which such problems are solved. For metaphysics deals with the general nature of matter and form, of agency and ends. Any field of human interest may be a point of departure into metaphysical analysis; and any field of human interest, once metaphysical analysis has seemed to reach accredited conclusions, may again be an illustration of those conclusions and an occasion for their more adequate confirmation. Attention to the concrete is always requisite for understanding of the general; and clarity in understanding of the general is always corrective of a preliminary and partial treatment of the concrete. The subject-matter from the analysis of which metaphysical principles can be obtained is not remote or unfamiliar or rare: it is anything at all—the baking of a cake, the composing of a sonnet, the flowering of a plant, the coursing of a rivulet through the woods. The choice of subject-matter for metaphysics will vary with the interests of the particular metaphysician. Any subject-matter, any occurrence in nature, is suitable, provided that it is viewed disinterestedly, provided also that the respects in which it is distinguishable in its particularity from other things are not confused with the respects in which it is akin to all other particulars which nature likewise contains. Metaphysics is possible, as, indeed, metaphysics is in the end requisite, only because nature is as uniform in its ways of becoming as it is manifold in the details of its contents. There are ultimate principles in theory, only because there are generic traits in fact. Some of these generic traits, as they are found in nature and as they appear in man, will be discussed in subsequent lectures of this series.

CAUSALITY, THE PATTERN

THE most conspicuous feature of nature is that it is constantly changing. The various discrete items we discern and perhaps know appear and disappear in the context of an incessant on-going of events. *Rerum natura* is fundamentally process, flux, becoming. Emphasis on the dynamic character of nature is the more requisite, just because the word nature is equivocal and, in another meaning, stands for something quite static and fixed. The equivocation can be easily noted by comparing the titles of two famous works, Cicero's *De deorum natura* and Lucretius's *De rerum natura.* Cicero was inquiring, not concerning how the gods came about, but concerning what the gods essentially are; he wanted to determine the precise form which, apart altogether from the processes of becoming, the gods actually have. Descartes turned much of modern thought in the same direction when, for example, he said that the nature of material substance is extension. Philosophers since Descartes have been engaged in debating what body is, what mind is, what experience is, what knowledge is; they have been engaged in defining the many whatnesses, so to speak, which the world around them warrant them in affirming to be the nature of existence. This Ciceronian-Cartesian point of view, if it may be thus dubbed, is of course legitimate: it leads men to consider one of the requisite tasks of metaphysical analysis. But it has the unfortunate consequence of leading men to neglect

another basic enterprise, namely, the analysis of the process whereby the things with these whatnesses come about, endure, and pass away. It even handicaps them often in determining what things essentially are, because it tends to make them view things out of context and out of their genetic relationships. Quite different is the meaning of *natura* in the title of Lucretius's poem. This title is, to be sure, given the standard English translation *On the Nature of Things.* The literal-minded precision of this rendering, however, is unfortunate. Each separate word in the title is in turn given its customary English equivalent, but the meaning of the Latin phrase is somewhat obscured. We should use an English phrase which would better point up the intent of Lucretius. He was basically concerned to show the pattern of the processes in which all things occur. Doubtless his analysis is weak at certain points, but his approach is a sound one for any metaphysics. He was using his word *natura* for what the Greeks had called *phusis. Phusis* is growth. And then, in order to escape the monistic trend of thought which was already visible in philosophical circles and was soon to receive definitive expression in the great stoics—in order rather to emphasize the rich diversity of nature's products, he added an obviously pluralistic word and spoke of *rerum natura.* After all, the Latin word *natura* is etymologically related to the verb *nascor* which means to be born or to come into being. We are unfortunate in that we have, in the English language, no verb from the same root as our noun nature (except of course *to naturalize* which is preempted for special meanings with no metaphysical significance). Even as long ago as the seventeenth century, whether because of Descartes or not, the word *natura* was losing its dynamic sense; but Spinoza could at least resort to the expression *natura naturans,* which stands in

marked contrast to *natura naturata*. We have not in our English the equivalent of even this linguistic device. We therefore but need the more to be alert to recover the meaning of nature which *rerum natura* had for Lucretius and *phusis* for the Greeks. We need to begin our metaphysical analysis with the fact of becoming, and then subsequently to define the whatnesses of things in the light of the place which those things have in the process which is their condition, their setting, their field of relationships.

Careful attention to the processes of nature discloses that change does not occur in random fashion but according to an ever-recurring pattern. The abstract term for this pattern is causality. But as soon as we begin to talk about cause, we find ourselves in a universe of discourse which has been confused by inherited difficulties, factual, dialectical, and historical. Some of these difficulties we cannot avoid discussing. But in our discussions we ought never to lose respect for that objective subject-matter which is the basis of our discussion and the reference of our theories.

Belief in causality arises so early in each of us human beings that no one of us is likely to be able to recollect the way in which it first took shape in his biography. Likewise, belief in causality arose so early in the history of men on this earth that no investigation into primitive culture can recover the conditions in which our ancestors, human or prehuman, first entertained it. But we can point to the kind of human experience which affords the most obvious substantiation of the soundness of the belief. We find ourselves involved in events in a forceful way. We are pulled and pushed about by things around us, and we pull and push back in our own behalf. We handle things; and in this handling we become aware that these things are interacting with one another, that they are accelerating or retarding

one another's movements, that they are furthering or thwarting both our efforts and one another's continued being. Waves whirl away the sand from under our feet; the wind compels us to lean against it and yet propels our sailboats swiftly over the water; a log which has fallen across our path makes us bend under its weight as we seek to lift it out of our way. It is our labor which teaches us that events are heavy with efficacious insistence. It is our use of tools which gives us evidence of our participation in the urgent course of nature's dynamic processes. We wield an ax or a scythe or a spade; and we are thereby instructed that we are dealing with potent forces, and are ourselves exercising force in conjunction with, or in opposition to, other forces in nature around us.

This ordinary belief in causality, however, is quite vague and undefined. Here, as often in the growth of our knowledge of ourselves and of our world, we are dimly aware of a feature of nature long before we come, if indeed we ever come, to explicit and finished knowledge of what the exact nature of this feature genuinely is. Here, as often in metaphysical inquiry, we find ourselves diverted from our major and initial purpose, to consider epistemological questions, that is, to consider the method by which we may make our ideas clear. This is not an occasion for extended epistemological investigation; but it is a time when frank acknowledgment of two methodological principles may promote understanding of the metaphysical conclusions which they are used to support.

The progress of knowledge, we should always remember, is not from the simple to the complex, but from the confused to the more exact. The history of epistemological theories in modern philosophy is crowded with instances of the opposite supposition. We begin, so these theories

claim, with separate bits of experience, each crystal clear in itself, lucid in its detached being; and then doubts arise and confusions emerge when and as we put these bits together into groups or clusters or complexes. Strange that a theory about experience should have so little relation to the course of experience! Actually, we begin with what William James once, with his picturesque language, called a "big, blooming, buzzing confusion." And then for purposes of better knowing what in this existential maze is relevant to some purpose we entertain, we select certain items for our specific attention. We make these items as sharp as possible in their outlines. We ignore what seems irrelevant. The items we select may be, indeed they often are, conditioned in their occurrence by our deliberate efforts to simplify the situations by which we are initially confronted. But—and this point is vital to metaphysical inquiries—the simplicity of the selected items is not a disclosure of simplicity in nature: it occurs only, or at least chiefly, within the cognitive situation, which, if one of the kinds of situation which nature contains, is a very special, not a typical, situation. Consider an example of this point. When any one is in Times Square on election night and seeks to cross the thronged thoroughfares, he is bombarded, as it were, by the din of traffic. He does not easily make his way in safety among the milling crowds. He is most likely to know how to proceed if he ignores much about him and attends to certain spots of green and red lights, certain gestures of blue-uniformed arms, certain splashes of yellow of passing taxis, and so forth. The illustration is simple. But the only difference between this homely illustration and the most elaborate cases of laboratory procedure is the degree of refinement of abstraction and of precision of

quantitative measurement of the items selected for attention.

Then further and correlatively to the point already made, is the need of distinguishing between the artificial situation which the process of knowing creates and the more inclusive course of nature from which the artificial situation is manufactured. Each artificial situation is, to use a well-known logical term, a universe of discourse, but it is not the universe. If, in order successfully to clarify our ideas, we have normally to resort to what, in borrowed but quite literal language, is a planned economy, we must not regard the economy created for one purpose as adequate to all purposes. The very ease with which we move within a particular universe of discourse and the clarity of ideas which that universe of discourse promotes are indicative of the ontological impoverishment at the expense of which our bit of knowledge has been secured. The truth about some phase of nature in which we are interested is not the whole truth about the course of nature. Predilection for a favored universe of discourse within which we have perhaps learned happily to move about is, metaphysically speaking, the one unforgivable sin. Danger of course lurks in every phase of our quest for intelligible arrangements of selected materials: we may fail to lay bare some essential datum, we may emphasize some striking but inconsequential datum, we may make faulty inferences and fail adequately to check them against the facts. But these dangers are less acute, at least when our concern is metaphysical, than is premature commitment to a universe of discourse which, however rewarding for some chosen purpose, omits reference to further data important for obtaining supplementary knowledge of nature. A resort to deliberately

simplified situations can hardly be avoided if knowledge of nature is to be exact; a return to the richer course of the whole of nature is requisite if knowledge of nature is to be ample. And no science requires that knowledge be ample more surely than does metaphysics. When we reorder and simplify a vague situation in order better to apprehend some special point and to reach clarity of ideas, we ought never to suppose that we have preserved intact, within the limited structure of our selected material, all those genuine features of nature of which the larger situation, with all its confusions, may have made us dimly aware. We need always, if successful in one analysis, to begin patiently another analysis. Modern philosophers, over and over again, have erred at just this point. Particularly the classical empiricists have here been at fault. Empiricism in its classical form, one might fairly say, is at times little more than a technical device whereby nature is reduced to the range of imagination of an English gentleman of the early eighteenth century. Sophistication in metaphysics may be difficult to attain, and must be bought at a price; but there is properly no justification, because one analysis or some few analyses yield lucid and true ideas, in abandoning further analysis before all dimly discerned traits of nature have been investigated.

With these comments on the methodology requisite for metaphysics, we may return to consideration of the causal pattern of nature. And here we are at once led to name David Hume. He and, as always in metaphysics, Aristotle are the two most important authors in the history of western philosophy for discussion of causality. We shall necessarily come to Aristotle later. It is useful here to turn to Hume. Hume's importance, however, is not due wholly to the brilliant philosophical analyses which he made, with relentless

and unflagging thoroughness, of certain selected themes. It is in part due to the extensive authority which his ideas have exercised over subsequent members of the so-called empirical school. And in this latter respect, he has not always been a wholesome influence. His admirers have often raised questions which he never discussed, but have supposed that his answers to his own questions were also the proper answers to their different questions. Hume, though abundantly quoted, has seldom been correctly understood; he has not been understood primarily because his readers have not paid sufficient attention to what the questions are which he was considering and trying to answer. In certain respects his answers may not be entirely correct; but determination of this moot point is a minor matter compared to clear realization of what Hume was himself intending to say. Hume's problems in the *Treatise* were wholly in the realm of epistemology, not in metaphysics; and his incisive restatement of his position in the first of the *Enquiries* is almost entirely in the same field. Subsequent empiricists are therefore remiss in supposing that our efforts today to attend to traits of nature beyond those he mentioned are indicative of a lapse into a pre-Humean anti-empirical superstition and obscurantism. The universe of discourse of Hume's discussions of cause is a very abstract one and does not by any means contain all the traits which one can easily find in nature.

What specifically are the problems which Hume raised and sought to answer? Strangely enough, this man whose essays are the definitive treatment of causality in modern philosophy did not directly attack the question of what causality is. His followers have often supposed that he did just that; but the text of his essays shows that they are wrong. He took care to give ample notice of what, in each

of his essays, he was proceeding to discuss. In those essays in which the idea of cause is involved, his questions were primarily two. He first asked what are the grounds of our beliefs concerning matters of fact, and he then later asked what the origin is of our idea of necessity. Neither of these questions, quite obviously, is directly metaphysical. Both are epistemological. Now undoubtedly epistemology bears closely on metaphysics. But never did Hume overtly and directly inquire whether there are causal connections in nature; much less, then, did he go on to inquire what the causal pattern in nature is. And such indications as he incidentally gave of his views on these metaphysical matters show that on these metaphysical issues he was not himself wholly clear.

In order to rid out present systematic discussion of causality from mistaken appeals to Hume's authority, it will be useful to examine how Hume answered his two primary questions. The grounds of our beliefs concerning matters of fact, he said, are three: the present testimony of the senses, the records of the memory, and inference based on cause and effect. None of these grounds is infallible. All are useful. The first is the most reliable; the third, the most hazardous. The third is indeed so hazardous that we may wonder why we use it at all. We use it, Hume maintained, because we cannot help but respond to natural stimuli in accordance with the habits which these stimuli build up in us. Inferences based on cause and effect usually begin with something present to sense and go on to the idea of something absent. We do not make such inference when we first experience what to us is a novel thing. But we are so constituted that we do make such inferences after we have had recurrent experiences of the same kind of thing. For, to use Hume's own language, there is "a

kind of pre-established harmony between the course of nature and the succession of our ideas." [1] After A and B have occurred frequently in close sequence in our experience, the occurrence of another A at once brings to mind the idea of B. A habit is built up in us after many experiences in which A is uniformly followed by B, until in the presence of a further A the idea of B is so lively as to constitute belief in B. Thus it is that we human beings come to entertain many beliefs beyond those established by the present testimony of the senses and the records of the memory. And in this fashion, then, Hume reached his answer to the first of the two leading questions he had raised.

This summary does not do full justice to Hume's treatment of the nature of human beliefs; it gives no indication of the meticulous zeal with which, through a maze of parenthetical paragraphs, he handled a host of subsidiary questions and yet worked steadily towards his goal. But it may suffice for our present purposes. It may serve to confirm the contention that Hume was not analyzing nature. He was showing the grounds of our beliefs concerning matters of fact; and, since one of these grounds is inference, he was indicating how and why we come to make these inferences. But he was not telling us at any point in this discussion, what he thought causality is. He did to be sure make several statements which, wrenched out of their context, may seem like definitions of cause. He wrote, for example, that a cause is "an object precedent and contiguous to another, and where all the objects resembling the former are placed in like relations of precedency and contiguity to those objects that resemble the

[1] *Enquiry concerning Human Understanding,* Section V, Part 2, next to the last paragraph.

latter." [2] But this none-too-happily-phrased statement, however much it seems like a definition of cause, is rather, as its context reveals, a formula to enable us more reliably to infer which of the many sequences in nature are causal and which are not. It is a methodological formula, not a metaphysical principle.

Hume may not have been correct in certain of his contentions. But one can easily see the point of the answer he gave to the first of his two major questions. We eat bread and are nourished. This fact Hume mentioned; and then he went on to emphasize that we do not observe how —that we do not even observe *that,* bread nourishes us. We do not observe these latter facts; we infer them. And we could supply many further instances of just this kind of situation. We push a button and lights come on. We pour hydrochloric acid into certain colorless solutions and a white precipitate appears. We do not in such sequences observe anything in the nature of a pull or a push, of a dynamic passage from the earlier to the later phases of the events. There may of course be more, much more, in such events than what we observe. But Hume is concerned to insist that we ought not glibly to assume more than what we observe. Some of the observed sequences may be causal connections and others of them may not be. We need a procedure to enable us to safeguard our inferences. When we make inferences which go beyond what we observe and remember, we often fall into error; and to correct this weakness, we need, not a discourse on metaphysics, but a disclosure of the nature and grounds of human beliefs. Hume thought that the epistemological analysis he gave of the fashion in which beliefs in causal

[2] *Treatise of Human Nature,* Book I, Part III, Section 14, near the end.

connections arise would better enable us to estimate the value of the inferences we make. To turn this epistemological rule into a definition of the nature of causality in the world around us is to miss Hume's intent and to misrepresent his philosophical position.

The other primary problem in connection with which Hume dealt with the idea of cause is the origin of the idea of necessity. Many textbooks on philosophy and many learned articles on Hume assert, to be sure, that, in Hume's opinion, we have no idea of necessity. Nothing could be historically more unwarranted. The persistence of this misinterpretation is one of the amazing faults in the writing of the history of ideas. Hume explicitly stated that we *do* have the idea of necessity. Only because we *have* that idea did he take the trouble to trace its origin. He searched and he searched, and he eventually found what he took to be its origin. Most critics of Hume are evidently inclined to think that his answer to the question of the origin of the idea of necessity is wrong. But the mere fact that Hume did not find the origin of the idea where his critics would find it does not warrant them in charging that he denied the existence of the idea. It is high time that readers of Hume pay attention to exactly what he did say. Every idea without exception, Hume maintained, comes from an antecedent impression; and therefore, since we have the idea of necessity, we ought to be able to point to the impression of necessity from which it is derived. We do not, Hume thought, find necessity in nature about us or in the operation of our wills. We do find it, however, in the way our imaginations operate. After the course of nature has built up certain habits in our minds, our imaginations pass from a certain impression to the idea associated therewith. Our imaginations pass forcefully from

the impression to the attendant idea. We feel that passage. That passage is not a volition: that is, it is not something we choose to do. But it occurs. Its occurrence, however difficult it may be to focus attention on it, is an observable fact. Hume claimed that it was actually an observed fact in his own case, and obviously believed it could become an observed fact in the case of all the rest of us. It is, in his eighteenth-century language, an impression. It is an impression of necessity. It is to be sure a secondary impression rather than a primary impression, that is, an impression of reflection rather than an impression of sensation. But we need not here go into an elucidation of Hume's sometimes cumbersome terminology. His point, in language more consonant with our usage, is that necessity is a fact observed in our inner life rather than one observed in the course of nature outside of us. But even though observed only within ourselves, it is none the less really observed.

Now, as earlier paragraphs show, the position taken in these lectures is in disagreement with Hume's answer to this second of his two primary questions. The position here taken is that we do perceive necessity in nature around us, and Hume denied this. We all, according to the contention of this lecture, observe necessity in the push and pull of events in so far as our bodies are involved in these events. And the word necessity is here used in exactly the sense in which Hume used it when he maintained that the idea of necessity can be traced to no other impression save the secondary one in the workings of imagination within our minds. Necessity is here, as in Hume, a name, not for the logical inevitability with which premises lead to an implied conclusion, but for the natural compulsion with which some agent so acts as to produce

some change in the materials on which it acts. Necessity, Hume stated, means the same thing as power, force, or energy. Perhaps his language is here misleading. It has certainly misled many of his readers. It seems to have misled even himself—at least, to some extent; for, in denying that we discover in nature any necessity in the sense of logical connection, he seems too quickly to have supposed that we do not discover in nature any necessity in the sense of physical compulsion or efficacy. Causes do not indeed imply their effects—of this Hume felt quite certain. But causes do make effects ensue. Causes produce effects. Causes are efficacious in their urgency, in their forcefulness. They act, and they act with power. Necessity in this sense—natural necessity, we might call it, in distinction from logical necessity—is so commonly recognized as present in the world around us, present constantly and in everyday occurrences, that Hume's denial of it calls for some explanation.

In giving this explanation, however, we must take care to state the problem in a legitimate form. We may ask why Hume denied that we observe causal necessity in nature; but we ought not to ask why he denied that there is causal necessity in nature. For he never made this latter denial. Again, the textbooks and learned articles are often in error at this point. For they often say that he maintained that necessity exists only in the mind and not in objects. But in no passage in his writings did he make this denial so frequently attributed to him. Critics have supposed he denied necessity in nature because they have misinterpreted the bearing, each upon the other, of the two answers he gave to the two major questions he discussed. The bearing of these two answers upon each other is something each critic must determine for himself. Hume did not

himself point it out for his critics. Each section of the *Treatise,* and even more markedly of the first *Enquiry,* is practically an independent essay. But the series of essays have consecutiveness because they all remain carefully within the field of epistemology and seek, so far as possible, to avoid metaphysical issues. And the question whether there is necessity in nature is a metaphysical question. Hume avoided this question, so far as indications enable us to say, for the same reason for which he avoided all metaphysical questions in the *Treatise* and the first *Enquiry.* He avoided it because he was uncertain. In answering his two major epistemological questions, he concluded that we make causal inferences when constant conjunctions build up habits in our minds, and that we get the idea of necessity from the experience of necessity in the operations of our imaginations. Necessity may well exist, however, where it is not observed—and Hume would be the first to grant this point. We cannot, of course, appeal to what may exist but is not directly observed as the ground of our inferences concerning matters of fact. That is the reason, Hume thought, why we human beings must resort to the fallible test of constant conjunction as the practically best, though far from theoretically perfect, means of justifying our causal inferences. But surely we are not entitled—Hume clearly did not consider that he was entitled—to suppose that the constancy we do observe is evidence of the non-existence of a necessity we do not observe. Perhaps there is sometimes necessity when we observe constancy, perhaps there is at other times no necessity there. Hume was genuinely sceptical on this point. Indications in the text of his essays show that he alternated between believing and doubting that there is necessity in nature. In one passage he wrote: "Upon the whole, neces-

sity is something, that exists in the mind, not in objects." [3] *Upon the whole* is here the crucial phrase. Critics have overlooked this phrase and have quoted the remainder of the sentence out of context. But the paragraph shows what the crucial phrase means. The preceding sentence gives us the key to a just interpretation. He there says that the only impression "which has any relation to the present business" is the internal impression we find in ourselves. That is, the only impression which affords us an explanation of the origin of the idea of necessity is, not in objects without us, but in processes of the imagination within us. The passage just quoted is therefore, not a denial of necessity in nature, but a denial of the immediate perception of necessity in nature. And elsewhere and more normally, he took quite a different stand. In the *Dialogues concerning Natural Religion* he currently used such expressions as "the actuating force" which produces each and every change in nature.[4] In Book II of the *Treatise* he wrote: "The actions, therefore, of matter are to be regarded as instances of necessary actions." [5] Even in Book I of the *Treatise,* the most sceptical portion of Hume's entire works, he proceeded to draw up rules by which we may be enabled to judge which sequences in nature are merely constant conjunctions in our limited experience and which are "really" causal.[6] And in a manuscript letter in which, late in life, he commented on the purport of his earlier writing, he frankly said: "I never asserted so absurd a

[3] *Treatise of Human Nature,* Book I, Part III, Section 14, about the middle.

[4] Part VIII, seventh paragraph. These are the words of Philo who speaks for Hume in the *Dialogues.*

[5] Part III, Section 1, third paragraph.

[6] Part III, Section 15, first two paragraphs. Cf. Part III, Section 11, sixth paragraph, where Hume wrote that causes "make" effects occur.

proposition as that any thing might arise without a cause. I only maintained that our certainty of the falsehood of that proposition proceeded neither from intuition nor demonstration, but from another source." [7] We must conclude, in the light of these and other such passages, that Hume was cautiously avoiding making any final commitment on the question of necessity in nature. He alternated, as was said above, between believing and doubting; he did not alternate between believing and denying. He avoided a denial of necessity in nature even more carefully than he avoided a full affirmation of it. He certainly did not regard what he said as in any way involving a denial. It is his less cautious followers in the empirical school, followers who mutilate the free and disinterested inquiry of Hume into the rigor of a professionally partisan *-ism*, who mistakenly interpret his caution as denial and thus turn his honest scepticism into a negative dogmatism.

We must therefore reject as spurious the question why Hume denied necessity in nature. But we may well ask, as was said above, why he denied that we observe this necessity. The answer to this question is in part the conception of experience which he took over from Locke. According to this conception, all the original data we have for reflection are a vast number of separate bits of psychic stuff which first occur, in our consciousness, in detachment from one another. The only empirically observable relations among them, it then follows, are those we give to them when we arrange them in certain ways and work them over into complexes. Hume was no slave to this subjectivistic notion. He often thought and wrote in entire freedom from it. But he never outgrew some of its im-

[7] This letter is quoted from J. H. Burton's *Life and Correspondence of David Hume*, I, 97–98.

plications. It led him to suppose that the processes of nature are hidden from our eyes—that those processes are hidden, not simply from our first and superficial and preliminary gaze, but even from our detection at the end of the most careful analyses we can make. Relations generally, and the relation of causal necessity in particular, have therefore to be regarded as imputed to nature, not as disclosed within nature. And all imputation is hazardous and justifies scepticism concerning its truth. A universe of discourse built up out of these detached items did serve for his epistemological inquiry. But his confinement to this universe of discourse betrayed him into a denial that we ever observe more than these separate items. He wished in his universe of discourse only such items as were separate, each of them, from all the others, so that they could be pointed to in their individuality, could be put in their due place in columns and lists, and could be counted as members of series of similar items. Therefore, even when he went on to his second main problem, namely, the origin of the idea of necessity, he retained the universe of discourse created for his first problem, merely introducing into that same universe of discourse one new item, that is, the impression of necessity that arises from the workings of the imagination. But even this new item, when so introduced, appears as another detached item with no significant existential or natural context. He thus became, in certain passages in which some metaphysical implications of his epistemological essays are tentatively suggested, a victim of his very adroitness in handling his primary epistemological questions. He wished to be a strictly impartial spectator; he succeeded in being merely an unparticipating spectator. He would not take practical operations in the world as part of the materials for his reflections. When he

went down to the inn to dine and play backgammon and make merry with his friends, he sought refreshment from philosophy rather than an enlargement of his philosophic vision. But an unparticipating spectator cannot possibly be impartial, because his universe of discourse cannot possibly contain all that would surely be relevant to the analysis of nature. Hume's writings, brilliant as they are, yet exhibit a major fault of classical empiricism, namely, a fear of admitting more than the minimum necessary to some special question with which speculation starts. Among empiricists since his time, this fear is so constant that empiricists have tended to reduce the world to less than is actual rather than run the risk of admitting more than is really there.

It is in the empirical tradition which stems from Hume that the limitations of Hume's epistemological analyses become positive and dangerous errors. Those who adhere to the Humean tradition often take his specialized universe of discourse as a kind of party platform, delighting in denying any and every item not therein already contained, and employing it for all sorts of other problems, metaphysical problems even, for which it was not at first intended. Empiricism in such hands becomes an attempt by dialectics to anticipate the possibilities of nature. It tends to become a debunking enterprise with unwarranted negative dogmas. Particularly is this the case with the treatments which professed empiricists often give of the nature of causality. Karl Pearson, for example, wrote that there is no such thing as force in our experience but only "a routine of experience," and that causation is merely a name for the fact "that a certain sequence has occurred and recurred in the past." [8] Mr. Bertrand Russell has taken

[8] Karl Pearson, *Grammar of Science*, 3d ed., pp. 118, 113.

a similar stand. "This notion of 'necessity,' " he asserted, "seems to be purely anthropomorphic and not based upon anything that is a discoverable feature of the world." [9] There are, he maintained, no necessary events but only causal laws. The laws, however, are of course not to be thought of as producing the events they abstractly describe; they are only statistical summaries of regularities in events. Therefore, to Mr. Russell, events occur but are not produced. In his own words: "Causation, like every other traditional notion, appears to be concerned with what happens to things in the mass, not with what happens to them individually." [10] The late Professor Moritz Schlick expressed the point as follows: "The word cause, as used in everyday life, implies *nothing but* regularity of sequence, because *nothing else* is used to verify the propositions in which it occurs." [11]

This type of opinion is in the way of becoming the official orthodoxy of the empirical school. Hence, the school is empirical in name rather than in its attention to the causal pattern of nature. It purges from Hume's universe of discourse even that one instance of necessity which he, tracing the origin of the idea of necessity, was honestly led to admit. It lifts into emphasis one genuine aspect of the course of change in nature, namely, the dependable regularity with which change follows certain uniform laws. But in saying that cause is nothing but this regularity, it takes one successful analysis of change as an exhaustive analysis. And

[9] Bertrand Russell, *Philosophy*, 1927, p. 115.

[10] "Physics and Metaphysics," *The Saturday Review of Literature*, May 26, 1928, p. 910.

[11] "Causality in Everyday Life and Recent Science," in *University of California Publications in Philosophy* (1932), XV, 101. Reprinted in Feigl and Sellars, *Readings in Philosophical Analysis*, p. 516, New York, Appleton-Century-Crofts, 1949.

thereby it gives, without seeming to realize it, a quixotic theory. According to its conclusion there are causal laws but there are no events which, taken singly, are causal. Sequences continue to recur uniformly, but no sequence is really produced. This extreme view finds nothing in nature that does not occur in the abstract universe of discourse of Hume. It does not return, after its one analysis, to that dynamic efficacy of nature's operations in which we are all directly aware of being involved. It repudiates abandonment of analysis for some other method of knowledge, such as Bergsonian intuition, and in this repudiation it is doubtless sound. It points out that our everyday awareness of the dynamic pressure of operating forces is not clear knowledge, and here again it is doubtless sound. But it then gives no analysis of what is occurring in the forceful changes that exhibit uniform structures or manifest causal laws. It is seemingly proud of the one clarity it has gained, and would not risk the enterprise of seeking any supplementary truth about nature.

And so we come to Aristotle, whose treatment of causality is for metaphysical analysis at least as noteworthy as is Hume's for epistemological. Aristotle's discussion of cause, in its customary English rendering, contains linguistic difficulties but no intrinsic obscurity. Everything that exists, Aristotle in translation is made to say, has four causes. The Greek word here translated cause is *aitia.* And *aitia,* as Professor Woodbridge often pointed out, suggests, among other matters, a procedure of the law courts. It means a line of attack which a person might bring against another, that is, a charge, a direction of investigation of some existing subject-matter. To say that everything that exists has four causes is to assert that everything may always be legitimately studied from four different points

of view, may be so analyzed as to lead to four distinct, if interrelated, considerations. Cicero put Aristotle's Greek into Latin by using what for him too was a legal term: he translated *aitia* into *causa*. Cicero, for example, brought a *causa* against Cataline. We put *aitia* into defective English when we transliterate Cicero's *causa* into our word *cause*. We should do better if we carried out the legal suggestiveness of the original Greek and said that we can make four types of *case* against nature. But custom is strong, and we shall probably have to stick to the linguistic practices of many generations and to speak of four causes. Yet we must not fall into the ridiculous error of regarding the four causes as four agents which conspire collectively to produce the events that occur. Only one of Aristotle's four causes is an agency that acts or produces; the other three causes are not agencies at all.

We need not here give a summary of Aristotle's treatment of the four causes. And indeed his treatment is not all of one piece. Obscurities and confusions abound in the text, some of which may be due to defective copying of manuscripts, others of which are surely due, if Professor Werner Jaeger's historical analysis of the *Metaphysics* is sound, to the fact that different strands of the text come from different chronological periods of Aristotle's life and to different stages of Aristotle's intellectual development. One may therefore be pardoned if, in using Aristotle's philosophy, one uses it in that form which is most relevant to one's own purposes. Sometimes Aristotle is chiefly concerned to analyze substance; sometimes he is chiefly concerned to analyze change. The two concerns are not incompatible; but the two analyses which he made of these concerns are not always easy to put together into one harmonious theory.

We are here concerned with the analysis of the causal pattern of nature, that is, with change. We may then utilize Aristotle's distinctions in that specific context. Thus handled, Aristotle's contention is that every passage in nature, every event, every instance of coming into being and passing away, compels us, when we analyze it, to recognize four major considerations. There is first the stuff or material acted upon; there is secondly the agent which acts on that stuff; there is thirdly the form of the event that ensues through the action of the agent on the material; and there is fourthly the end or value which the changed situation serves or makes possible. These considerations, when stated with sufficient generality, give rise to four major metaphysical concepts: matter, agency, form, and value. Frequently the word cause in colloquial English is confined to only one of these distinguishable natural factors, namely, to agency. But if we once realize that in philosophical discussions a cause is any factor without which change in nature would not be as it is, all four factors are alike causes. Agents are involved in all changes, and so agency is a cause of events. Agents cannot act without material upon which to act, and so matter is a cause of events. Agents cannot act without bringing about a change that manifests, in given circumstances, a requisite form, and so form is a cause. Agents cannot effect a change without thereby altering the values potential in the situation, and so value is a cause. It is these four factors in their natural union that give to change its dynamic efficaciousness. We are therefore justified in saying that events in nature occur by reason of four causes.

The traditions which have stemmed from Aristotle have not always handled the four causes soundly. Those who exploit the four concepts have sometimes treated them,

not as generalizations about distinguishable features of any and all natural events, but as affirmations concerning allegedly transcendental preconditions for the occurrence of nature. Matter then becomes a *materia prima,* something without form and void, which, like Anaximander's Boundless, is a raw material out of which nature is manufactured. Form then becomes a divine plan or providential guiding of the course of nature. Agency then becomes a First Cause that allocates to natural agencies or "second causes" their efficacy and role. And value becomes an ultimate, possibly a preordained, destiny towards which history through its many deviations yet surely tends. These spurious notions may have a tenuous support in the text of Aristotle's *Metaphysics* in the form in which that work has come down to us. But they are not the intent of Aristotle's mature thought. Nor, at least, is anything of that sort the intent of the present lectures. The concept of matter is not an allegation of another and more ultimate matter than the materials about us in nature, but a recognition of the role of natural materials in the occurrence of change. So with each of the other three causes. Metaphysics is not an explanation of why nature is as it is; it is an explanation of what nature is in its general traits, and, consequently, of what various factors particular changes in nature may be expected to contain.

An understanding of the four metaphysical concepts—matter, form, agency, and value—may be furthered by concrete illustrations. A seed, let us say, lies in the soil. As something acted upon, it is matter. Sun and rain affect it. They then are agencies. It becomes a tomato plant on which tomatoes ripen. The course of this process is form, such as may be found uniformly in all similar events. Its fruits are good for food or for production of seeds for

further crops. These potentialities are values. Similarly, a river valley is coursed by a river; floods pour violently down the valley and sweep tons of earth from the banks of the river towards the sea; a delta is formed at the mouth of the river; this delta may provide fertile fields for agricultural needs, may provide a good site for fortifications, or may block shipping off from use of some port up the river. The valley is matter; the floods are agency; the building up of the delta is an instance of a natural form; the various potentialities of the delta are values—for natural values, as we shall note more fully in a later lecture, are by no means always beneficial to man or in accord with the needs of human civilization. Or again, students assemble in a classroom; a teacher lectures to them; enlightenment or perhaps boredom or even anger is produced; and all sorts of subsequent contingencies too varied to be listed are made possible. These illustrations are simple ones; others could be adduced from highly technical procedures of medical research or industrial laboratories. But everywhere we find four distinct considerations in events—matter, agency, form, and value.

Many comments need to be made in elucidation or clarification of the metaphysical position here outlined. The three remaining lectures of this series consist of such comments. Some preliminary comments, however, may be supplied now. The first of these is that every event we mention can be broken up into a series of sub-events. We can speak of the growth of a tomato plant, the formation of a delta, or instruction in a classroom as, each of them in turn, one event. Or we can analyze any of them into lesser events which are, so to speak, its parts. The more we perform such analysis, the more precise, the more technical we make our statements of the facts. When we choose to carry on

this type of analysis, however, we are not pursuing an essentially metaphysical task. This type of analysis calls for specialization of skill in handling particular problems: it is the kind of scientific investigation which an horticulturalist in the case of the tomato plant and a geologist in the case of the delta are alone fitted to carry out. The concern of the metaphysician with such division of a gross event into sub-events is only to insist that at every stage of these scientific analyses the four metaphysical considerations be kept distinct, that no one kind of the four considerations be at any point confused with any of the others. No theoretical limit can be set to the possibility of the continuance of scientific analysis. We bring our scientific analyses to an end for practical reasons, perhaps because we achieve some purpose and are not interested in going further, perhaps because we reach the end of our technical proficiency and have no skill for a next step. But we never reach a theoretical last division. We never reach a theoretical last division because there is no such thing as an event-particle out of which larger events are built up. Usually, even before we reach the practical end of division, we are attracted away from continuance of that line of investigation by some different kind of problem. We begin to compare one kind of matter with other kinds, to consider the different effects of alternative agencies, to list the diverse forms to which one and the same kind of matter may by different agencies be converted, to estimate some proffered value in the light of an ideal we seek to further. We should not infer that the point at which we terminate our analysis of an event into sub-events is a boundary which nature sets to our inquiries. We can no more reach an unanalyzable event than we can reach a durationless moment.

Scientific specialists talk at times as if they were reaching the limits of analysis: as if they found, for example, a force that operated without there being any matter on which it operated, or as if they found some matter that changed into some new form of existence without there being in that change any cause that operated to produce it. Such talk, however, is merely indication that specialists are at the end of their tether and are losing contact with the full reality of what is elusively slipping from their clutches. A woeful feature of philosophical writing is that scientific specialists sometimes choose to make the baffling inadequacies of their dealing with the exceedingly minute or the exceedingly remote the basis of their interpretations of the obvious and the more easily observable. Sound metaphysical procedure is the reverse of this sort of lurid and tantalizing speculation. Where we do more fully grasp the events of nature, we do always find matter, agency, form, and value; and we may well take, as a fruitful working hypothesis, the supposition that these features will characterize all events. This hypothesis will probably be in the future, as it has been in the past, a productive guide for the further exploration of matters of which our knowledge is fragmentary and to which our approach is highly artificial and abnormal.

Another comment on the import of the metaphysical position here outlined is a warning against taking the terms of metaphysical analysis too rigidly. Events like the growth of a tomato plant or the formation of a delta do not occur in isolation in nature. They occur in the context of nature's vast complexity and hence in intimate conjunction with many other simultaneous and interlocking events. In the nexus of nature, every thing that is matter relatively to some agent's operations is also simultaneously active

agent relatively to some other matter; and every value, if actualized, becomes existing matter which in turn has its specific and perhaps quite other values. Matter and agency, form and value, if sharply distinguishable in idea, are mutually interinvolved in fact. The flood waters are agent relatively to the earth they sweep down the stream; they are matter relatively to the constraint which the river banks or dikes exercise against them. So students in the classroom, though matter for the teacher, are not matter in any absolute sense of the term; they are agent too and the teacher is matter, in so far as they direct the course of his lecture by their inquiries, stimulate him by their attentive responses, or irritate him by their seeming indifference. Even the tomato plant acts on the sunlight, storing up in its chlorophyl some of the sun's radiant energy as the matter upon which it operates. This kind of complexity in nature does not qualify the legitimacy or, so to speak, the metaphysical finality, of the distinctions, among matter, agency, form, and value. As in logic a term like mammal is genus relatively to cattle and is species relatively to animal, so in metaphysics any item selected out of the texture of events is matter or form, agency or value, relatively to the connections in which it is viewed. But there are genuinely agents and matter and form and values, even if the same item may be identified in various ways according to the various roles it plays in the pattern of nature's intricate changes.

Recognition that any item we select for attention may well be simultaneously both matter and agency ought not to be taken as justifying an annulment of the distinction between agency and matter. For it is not *qua* matter that that item acts, and it is not *qua* agency that that item is acted upon. Failure to make the theoretical distinction

clear and then to use it to identify the various roles which things play in the complex interactions of nature is responsible for some strange philosophical vagaries. When the distinction is ignored, the course of nature is treated as a series of states, now this one, then that one, and again still another; and then the supposition arises that each total state of the universe at any one moment is the cause of the total state of the universe at the next moment. The denial of causal efficacy, at least its neglect, in the post-Humean phases of historical empiricism has furthered this way of interpreting nature. The only reason, it is sometimes said, for picking out any one antecedent rather than another and calling it a cause of what ensues, is some personal concern of him who picks that antecedent out, some subjective interest but not an objective determination of fact. To talk of natural changes in this fashion is virtually to describe events wholly in terms of matter, though matter now has come to be endowed mysteriously with an intrinsic habit of development. But if the dialectical implications of the universe of discourse conventionally employed by the empirical school of thought lead in this direction, a fresh examination of nature leads to a different view. Nothing in nature evolves from earlier to later stages of its history merely by being what it is. A thing may of course act upon itself, as when a person takes an aspirin to dull his headache or a moving glacier grinds some of its solid mass to icy fragments. But this kind of action upon oneself or itself merely calls out attention again to the fact that what we call one person or one thing is often quite complex and contains within its structure both matter and agency. We speak of a man or a glacier as one integral whole, as indeed each is in some of its roles; but each contains parts which in other roles

act upon one another with incessant and intricate variety of interrelationships. The sub-events within a larger event are often such interactions among parts; they bear on one another as do citizens within a state. But none the less, in the sub-events and in the larger events, the distinction between matter and agency can be found. Matter *qua* matter is the seat of potentialities; and potentialities, since not as such actual, cannot act. The passage of potentialities into actualities requires action by an agent upon the seat of those potentialities. Every event thus has as one of its conditions the causal efficacy of an agent in initiating that passage.

What kind of verification, it may well be asked, can properly be offered in substantiation of any metaphysical analysis, that here advocated or indeed any other? Metaphysics, as the term is here employed, aims to set forth the general traits of nature. But no metaphysician, obviously, can profess to examine the entire course of nature. And a selection of certain events, though it might well elucidate a metaphysician's meaning, would hardly suffice as corroboration of his sweeping thesis. The selected events, even if chosen at random, might well not be fair samples of nature's vast complexities and ample resources. The crucial test of the correctness of any metaphysical analysis is probably the utility of that analysis in throwing light upon the significance of the accredited bodies of knowledge which, laboriously and cumulatively, have been achieved by thousands of careful workers in many fields. The crucial test, that is, lies in the utility of the metaphysical analysis to give a just interpretation of the sciences, the social and natural sciences. The social and natural sciences, or, to speak more compactly, history and physics, are not infallible in detail; but they include reference to large areas of

natural existence and constitute the most systematically arranged parts of our knowledge of nature. A metaphysician ought always to keep in close touch with the work of the sciences. He need not attempt to usurp, he would be inept if he tried to usurp, the roles of historian and physicist. He need not adduce evidence for the laws of mechanics nor trace the causes of the Peloponnesian War. But he ought to consider whether history and physics reflect, and, if so, how they reflect, the general principles which he proposes to set forth concerning the basic traits of existence. He does need to take account of what these sciences are. For in the organized bodies of accredited knowledge will surely lie some indication of the traits the world generally has. To an estimate of the enterprises of history and physics, it is therefore requisite to turn for justification of the metaphysical position here taken concerning the causal pattern of nature.

HISTORY AND PHYSICS

HISTORY, as has often been pointed out, is a term with two distinguishable if interrelated meanings. The history of ancient Athens, for example, may designate a certain course of events that once took place, with its building of empire, its revolutions, its glories, its shameful enslavements of subjugated peoples, its wise men and its foolhardy leaders; or it may designate accounts proffered of these events, such as we find in the writings of Herodotus and Thucydides and a host of other authors who have told and retold the stirring and plaintive story. That is, to speak more generally, history may be either some sequence of past events in their passage or some narrative thereof designed to entertain or to instruct. The former of these two types of thing is something to be discovered; the latter, something to be composed. The former is a possible subject-matter for investigation; the latter, an outcome of an investigation of that subject-matter. The former may of course occur without the latter; it may occur and be forgotten, if ever witnessed or known, and remain forever outside the ken of any observer or thinker. The latter may not exist without the former; it differs from fiction in that it presupposes, and is in intent a disclosure of some truth about, the former. The former, we may say, is real; the latter, we may hope, is true. The former may or may not include human actions: it need not be the life of ancient Athens or of modern America—it may be

the formation of the icecap which covers the Antarctic or the deposit of coal beds in Pennsylvania. The latter is a distinctively human enterprise: it entails a degree of intelligence and a type of interest which, if shared by man with other beings of whom we know nothing, are yet characteristically human. Man, we may say in deliberate exploitation of the dual meaning of the word history, is an historical animal because he lives in what, before his appearance as well as during his career within it, is an historical world.

An equivocal term, however, is always troublesome. Therefore, for the sake of clarity in the present discussion, the word history will be here used in only its etymological sense. History then is a body of knowledge; and, as such, it may properly be called a science. Yet it obviously differs in character and purport from such another science as physics. It indeed differs so markedly from physics that physicists, thinking of specific features which they highly esteem in their own work and do not find in history, are often prone to deny the term science to history altogether. Doubtless there are ways of defining the term science which would make it inapplicable to history. But there seems little point in efforts to quarrel about definitions, to turn a general term into a eulogy of one's favored kind of knowledge, and to seek thereby to cast aspersions on other important bodies of knowledge. History and physics are two of the great intellectual enterprises of mankind; both are requisite for an understanding of nature. They are alike in some respects and different in others. The respects in which they differ ought to be, not occasions of dispute concerning their respective degrees of merit, but means of enabling us to discern the alternative features of nature

of which they give us information and understanding. They are both sanctioned, let us say, by a sound metaphysical analysis of nature. Or, to put the point in another way, each provides us with evidence concerning a trait of nature which the other does not sufficiently and clearly note, so that the two of them are jointly necessary for adequate interpretation of the pattern of natural events.

The subject-matter of history, according to the view put forth in the opening paragraph of this lecture, may be anything at all in the course of events which have already occurred. This view, however, is not always accepted. It is rejected, sometimes because of metaphysical commitments, sometimes because of practical considerations. The late Professor R. G. Collingwood maintained that "all history is the history of thought." [1] He defended this theory of history on the ground that nature is "always and merely" a phenomenon. His approach to history is thus controlled by a kind of metaphysics according to which the universe can be divided into two realms of being—nature which is inferior in status and the creatively ideal processes of the pursuit of purposes, and the development of meanings. This metaphysics is in direct opposition to the theory of nature which was defended in the first lecture of this series and cannot be further criticized here.

The late Professor Charles A. Beard, without wishing to indicate any metaphysical commitment at all, likewise excluded many natural events in the past from the field of history. History, he wrote, is "all that has been felt, thought, imagined, said, and done by human beings as such and in relation to one another and to their environment since the beginning of mankind's operations on this

[1] *The Idea of History*, pp. 215, 214.

planet." [2] There is here no metaphysical dualism, indeed no metaphysics of any sort; there is only a practical assignment of limits within which a competent historian thought it wise for himself and his colleagues to confine their inquiries. This practical limitation is legitimate when it is recognized for what it is; and it does fit in with a widespread trend in the current usage of the term history. But though legitimate, as is indeed any scholar's recognition of self-imposed boundaries within which he chooses to conduct his quest for knowledge, it would, if rigidly pressed, obscure the significance which history has for a metaphysical interpretation of the pattern of natural events. Just as an historian who specializes in American history would not deny that there are histories possible of Egypt and Siam and Europe, so an historian who specializes in human affairs ought not to forget that nature in many of its phases was going on long before men appeared on the earth and is going on now apart from human contacts with it, and that these other areas of nature can, as truly as human affairs, be presented in story. Our solar system had its historically statable process of development; the tossing up of ancient mountain ranges, the gouging out of ancient river valleys, the evolution of ancient prehuman forms of life, these too were events of which histories can be and indeed have been written. The historian who chooses such phases of nature's past for his narrative would of course require much technical equipment and adroit skills in handling laboratory instruments. He would, in order to be a competent historian of such matters, have himself to become also an expert in astronomical or geological or biological fields. And no one can be expert in all these

[2] *Theory and Practice in Historical Study,* Social Science Research Council, New York, 1946, p. 5, footnote.

fields. The men who today call themselves historians seldom have the training to enable them to write natural history. This remark is not a disparagement of the historical profession. Many of those who deliberately confine their research to human history have, like Professor Beard, their specialized competences too: they are expert in dealing with man, who is one of the most intricate and subtle forms of nature's products, with interrelations of emotion and reason, with economic and political consequences of men's associations in organized societies. Restriction of one's investigations to a chosen field is inevitable. But such restriction indicates, not any cleavage in nature, but the area of the historian's skill and the other area of his lack of skill.

Since the subject-matter of history may be anything in the past, the first act of the historian is to select, from the vast mass of possible fields of inquiry, the particular sequence of events with which he chooses to concern himself. But it is not merely his first act in which he is compelled to select. History not simply begins, it also proceeds, by selection. History is not, and it ought not to be taken to be, a reproduction of any part of the past. It could not be a reproduction, even if it aimed to be; for every event is a unique occurrence which, even if in certain respects of a type that may be found again in the passage of time, cannot in its particularity and in its vast ramifications of relationships ever again be. But it never really aims to be reproduction: it deliberately ignores the trivial in order to emphasize the important. To write a history, we are told, is to give "the salient facts" about a chosen sequence of events; but to pick out the salient is of course a matter of selective judgment. To deny this, even to ignore it, is to turn history into something like a Greek mystery in which the death and resurrection of a god is allegedly

reenacted. Let us suppose that in some proffered history a wise scholar fully realizes one ideal of the historical enterprise: let us suppose, that is, that he gives an account of the past that is true in every detail of its affirmations. Even then, this ideally perfect narrative is necessarily both less and more than a reproduction of that part of the past it records. It is less, because it has selected some and neglected others of the manifold aspects which were interinvolved in the original events of which it is the history. It is more, because it is, consequently to its being a selection, an interpretation and an appreciation. It is more than the bald statement, "This which is said is true." It is also the claim, "This which is truly said is significant."

Sainte-Beuve, commenting on the historical writing of Guizot, wrote: "History seen from a distance undergoes a strange metamorphosis; it produces the illusion—most dangerous of all—that it is rational. The perversities, the follies, the ambitions, the thousand queer accidents which compose it, all these disappear. Every accident becomes a necessity. . . . Such history is far too logical to be true." [3] But the logic may really be intrinsic to the events narrated, even if these events be not the whole course of events. When, for example, a discerning leader, with far-reaching vision, molds the policy of a people and prepares them for, let us say, a momentous role in international action, the history of his exercise of power may well have logical unity; the successive steps of policy may well be interpreted as the unfolding of an integrating plan. Only the unity must not be misunderstood. It will not be the unity of concerted national action; for against that leader would probably have been arrayed dissident forces, resisting lethargy, and

[3] Quoted from John Buchan's *The Causal and the Casual in History*, Cambridge University Press, 1929, p. 13.

opposing plans for other ends. The unity will not be nature's unity: it will be a unity within nature of effective personal sponsorship in the interests of a steadily maintained program of action. With this qualification, however, Sainte-Beuve's pronouncement is sound enough. History as written has more rationality than events in their occurrence. This is not because the history is false, but because the history is selective, selective of connections that are important rather than of coincidences that are trivial. For, often at least, if not always, it is the intelligible unities rather than the discordant clashes of dissonant forces or the welter of irrelevant chances that are the salient facts in the actual course of events and hence the proper content of our historical narratives.

There is no escape from utilizing the principle of selection in the writing of history. There is indeed no escape from utilizing that principle in any human utterance. The only alternatives before us are whether we shall recognize the principle and profit from its wise application, or whether we shall be blind to it and so make our work misleading and even presumptuous. The alternatives might, without too flippant a use of language, be called history and chronicle. Chronicle, in this sense, is then selective in its reports, but without any guiding principle which controls the selection. History differs from chronicle in following a thread of meaning through the events open to report, giving thereby to the narrative a significance that is the historian's judgment upon the facts and his basic claim to our attention. In chronicle, selection is done by haphazard and blind chance; in history, selection is done by virtue of a plan and in fulfillment of a purpose. The judgments of an historian may, of course, sometimes be false: not all the significance imputed to events may be

correctly imputed. But these judgments may in many instances be true. Judgments of significance, as much as any other judgments, require verification. The facts which serve for their verification, however, are not the facts which the historian reports from the past. The significance of the past does not lie, so to speak, altogether in that past. It lies partly in the relation of that past to the present. That is why the significance of some past sequence of events—for example, the rise and fall of the Athenian empire or our own American Civil War—changes from time to time. The past remains unchanged, except in its relations to the present; but its relations to the present change as the present changes. A history, therefore, has inevitably a twofold reference. As an account of the past, it must be tested for its accuracy of statement by reference to archaeology, to documents, to testimony, any or all of which give evidence as to what formerly really did take place. As an interpretation of the meaning of the past, as a judgment of the significance of that past, it must be tested by reference to new events that are occurring in the present or will occur later in the future. That the past was what the historian says it was is a function of the past; that it means what he says it means is a function of the times for which the historian writes. Often the significance of a history is quite local and temporary. Our newspapers are full of the trivia of yesterday's happenings; the gossip we overhear in the subway or on the buses is dull and unprofitable. In great histories, the interpretation is so pertinent to the life of man on the earth that the histories may well live as literature as long as civilizations endure. But in all histories, ephemeral and of wide human appeal, what is recorded has been selected for the telling because it is that vista into the past which is significant from the point of

view of some present interest. In that sense, all history is contemporary history.

The contention that every history must use some principle of selection and must consequently present some line of interpretation does not involve any charge that history is a matter of arbitrary whims. It is rather a recognition of a glory latent in the historical enterprise at its best. Santayana, in his brilliant chapter on history, wrote: "Reason is not come to repeat the universe but to fulfil it." [4] Just because history is interpretation, it adds meaning to bare occurrence and so realizes one of nature's notable potentialities. Or, if the particular part of the past which a history records be some meanings previously entertained, the history gives new meanings to the onward course of the life of reason. It brings what happened, and is in a sense gone, into a context of inquiry in which that part of the past had not stood before. It enables the past to grow in import and to play new roles. Men may retell old stories over and over again; later tellings may add new facts or omit facts formerly included. Doubtless the amplitude of the various tellings has something to do with their respective merits. But apart from amplitude, apart from accuracy too, the effective tellings, the tellings which constitute great history, are those which so view the past as richly and wisely to throw light on the present and future. Greatness in a history, we may say, is more than truth, however much it involves that: it is pertinent truth. The political career of Pericles, the Protestant revolt against the Catholic ideal of a unified culture, the Atlantic Charter, the conferences at Teheran and Yalta—these are not events which, just because they are in the past, have, each of them, its fixed and standard meaning. Their mean-

[4] *Reason in Science*, p. 52.

ings have already changed often and will almost surely change again from time to time in successive turns of human affairs. We are not becoming arbitrary, we are not losing sight of the scientific ideal of accuracy of statement, if we recognize that history contains elements of critical appraisal concerning what in the past is relevant to and important for our own times. History, we may say in justifiable overstatement, is the record, not of what has happened, but of what has mattered.

The science of physics, some of its devotees say, is quite a different affair. And these devotees are indeed correct in this preliminary affirmation. But the difference must be stated with precision, if the role of the two types of knowledge in unraveling the causal pattern of nature is to be made clearly evident. Unfortunately, physicists often claim, in eulogistic rather than critical fashion, that their science has a kind of cognitive superiority to merely historical knowledge. History may be tinged in its judgments with the shifting interests of the persons who compose it, but physics, they confidently assert, lays bare the essence of things in a wholly impersonal manner. Matter, whether we like it or not, whether we have now this and then that purpose, matter is genuinely and objectively indestructible. The sum of energy in the universe is constant, even if human attitudes vary. The principles of mechanics do not change; formulated by Galileo and Newton, they were established, long before the seventeenth century, in the nature of the physical world. Men may come and men may go; but the laws of nature are the same forever. Physicists are to be sure less prone today than they were fifty years ago to suppose that their science is approaching a finished state. The revolution in physics during the last generation has promoted in them a humility which men

learn when they have to submit their supposed finalities to revision. Yet, as physicists rightly observe, the physical theory of relativity is not a concession to the flux of human points of view. It does not seek to point up our information in connection with the exigencies of a contingency we momentarily face. It seeks rather to escape from the restrictions all contingencies put upon us to a more general frame of reference, a frame of reference in the light of which the principles of the classical physics or any other such body of conclusions can be regarded as a special case. Therefore, many physicists today as formerly are wont to maintain that physics, once it is sufficiently accurate and developed, will lay bare what the system of nature essentially and fundamentally is. To their fond eyes, physics is an ideal science to which other lesser sciences like history only approximate in cognitive value.

Now there are grounds for holding that the prestige of physics in our own day obscures rather than discloses the role of both physics and history in interpreting the causal pattern of nature. We ought to examine more carefully the nature of the two types of science. Of the various points of real difference, three will be here noted, two of which are less significant and in fact depend on the third which is the most basic.

In the first place, the conclusions of a physicist can often be stated in strictly mathematical form such as an historian would find unsuited to his subject-matter. An historian may judge that the victories of Charles Martel over the Saracens at Tours and of Wellington and Blücher over the French at Waterloo were two critical points in the development of western civilization; but he cannot give numbers, like 7 or 17, to the degrees of their critical nature. A physicist, on the other hand, measuring the fusibility

of metals, can say that the critical points for silver and gold are respectively 962 and 1064 degrees centigrade. We should not misinterpret, however, the purport of this difference. We are not entitled to infer from it that history and physics differ as the relativity of opinion and the objectivity of knowledge. We are not entitled to infer that history and physics differ in degrees of accuracy. Mathematical formulability is one thing; accuracy is quite another. The accredited conclusions of an historian are just as accurate and as objective as any knowledge a physicist with his mathematical techniques can reach. The difference is attributable to the fact that an historian, concerned as he is with particular events, has to deal with their inchoate but portentous potentialities, while a physicist, concerned as he is with a general law, needs rather to express the form or sheer actuality of a type of event. And this contrast between attention to potentialities and attention to actuality reveals that the two sciences are concerned with different phases of the causal pattern of nature.

In the second place, a history of a given sequence of events can sometimes be written, and quite properly written, from two or more disparate points of view, whereas physics has an established basis of inquiry from which all physicists, almost without exception, proceed. But, as we should note, this is not equivalent to stating that history is more likely than is physics to be biased by subjective preferences. Perhaps historical writings do exhibit more cases of bias than the discussions of physicists. What purports to be history is too frequently covert propaganda; and what is issued as natural science, if occasionally superficial and uninformed, is seldom deliberately foisted upon its readers with the intent of deceiving them. That is why we are genuinely shocked at the deceptions of some Russian

geneticists and Soviet astronomers, and find nationalistic conceits in natural science as childish as they are perverse. But it would be an unilluminating device for estimating the enterprises of history and physics, to count the number of instances of their sinister exploitation. Neither enterprise can be fairly judged by the ease and frequency of its abuse. When the history of a given sequence of events is written from two or more disparate points of view, the rival and competing accounts may both or all be sound. It is a cliché among American historians, or perhaps more precisely it is an accepted bit of pleasantry, that one of the greatest needs in their field of scholarship is an impartial history of the Civil War from the Southern point of view. But what is fantastic or ridiculous in hoping for the fulfillment of just such a project? If we cherish our country, if we wish so to understand the Civil War as to bring knowledge of its causes and its course to bear upon the solution of the grievous problems that its conduct has bequeathed us, we must understand the Civil War from all the points of view which represent legitimate interests within the complex of our present confused situation. The Southern point of view, sadly maintained in the past by arms, has its legacy in current clashes of forces. It therefore needs to be scientifically, that is, impartially, stated in order to be understood, appreciated, and utilized in the progressive re-formulation of history until that history is written from the American point of view. And what is the American point of view? There is no one point of view that is distinctively American; there are many such. All of these need to be made clear; all need to use history as a vehicle of their exposition. And a resolution among them, if happily such might be achieved and might prevail for a moment, would be but the prelude to new problems

and new issues and new divergences, each of which would have its historical justification, and so on without end.

Every shift in the course of events changes the bearing of the past upon the present, and so makes imperative the writing of history. Just because historians deal with particulars that are, so to speak, dripping with alternative or even plural potentialities, they may legitimately view the past as prelude to two or more different futures and hence as possessing two or more different significances. And just because physicists deal with general principles which, if occurring at all in events, occur as those events' actual form, they properly ignore potentialities and state the clear and single type of actuality which in given circumstances will be the course of nature. The point, simply put, is this: history changes and physics grows. Of the history of the Athenian empire we may say that we understand it *differently* from Pericles as he is portrayed by Thucydides; of the nature of the atom we may say that we understand it *better* than Epicurus as he is portrayed by Lucretius. Where the accredited results of the work of two historians are often alternatives, the accredited results of the work of two physicists are normally supplementary. Interpretations in history are developed tentatively and often in opposition; theories in physics, once they have received sufficient corroboration, accumulate additively. Rational beings on some other planet about a distant sun could hardly be expected to have a history that exhibited the same curious sinuosities as our human story; but they might well have the same physics and formulate the same laws of nature as we have and do.

This point, the contention, namely, that we may have many histories but only one physics, must be safeguarded against misunderstanding. It does not signify, as some

physicists and not a few philosophers have been inclined to suppose, that, while history reflects the purposes of the historian, physics, relentlessly indifferent to human concerns and hence free from subjectivistic contamination, is a function of only the outward events of nature. This supposition is far from being the truth, and can gain acceptance only among those who are inattentive to the history of physical science. It stems perhaps from that most inadequate advocate of scientific method, Francis Bacon, who thought that a man best understands nature when he has no curiosity concerning special events around him but lets nature write its own truths in his unoccupied mind. From Archimedes in his bath to Charles Darwin in the "Beagle," the history of advances in physical theory testifies clearly to the contrary. We have seen in very recent years, for example, how urgent military exigency may promote medical knowledge or occasion the discovery of radar. It is not only practical applications of scientific ideas which are furthered by practical problems; it is also theoretical developments of physics which are brought about as a result of men's imperative needs for better understanding of phases of nature. Though a physicist seeks to report objectively the nature of some type of event, and often succeeds in so doing, he selects that type of event rather than hundreds of other possible types for his study and analysis—and he selects it because it has for him, or for men generally, a deep human concern. The world which the physicist sums up in his body of theory is not the whole of nature. It is not a photograph of nature. It reveals much of what nature is. But what it reveals is not so much what nature essentially is as what men essentially need to know about nature in order to live competently within nature. Of physics as truly as of history, we may properly use

Santayana's pregnant comment that "reason is not come to repeat the universe but to fulfil it." Physics, through its disclosure of features of nature that are relevant to human living, adds to the course of nature a new and significant series of events; it brings to realization one of the latent potentialities of nature and enriches civilized life with its gift of synoptic understanding. Either physics is an effort to build a cosmology with all the inadequacies which, as was seen in a previous lecture, such pretentions involve, or it is a humanistic enterprise which blazes that path through nature's mazes which men most require to have opened to them.

We can clarify the issue perhaps by considering the meaning of a philosophy which depends profoundly on the help of physics, namely, the poem of Lucretius. The antiquarian and inadequate nature of many of the physical opinions expressed therein will not obscure the issue. Lucretius, you will remember, maintained that everything can be analyzed in terms of atoms and the void. What is the purport of this major proposition of the Epicurean poet? The most searching reading of the *De rerum natura* does not make clear what Lucretius himself regarded as the purport of his analysis. He seems rather himself to have oscillated between two alternative estimates of his own work. Sometimes, especially in the opening Book of his poem, he seems to have meant that the atoms were originally separate and apart, that they drifted downwards through the void, that they swerved and so became entangled with one another, and that the complexes in which they now stand behave according to the same laws that describe their original motions. When he took this line of thought, he was treating physics as giving the essential truth about nature; he was making out of physics a cosmol-

ogy in the light of which all other problems would have to be solved. He consequently had to go on to argue that man, a by-product of alien forces, is imprisoned in a hostile world against which he can but timorously and tentatively sustain a brief, if he consents humbly to accept a quiet and retiring, existence. But at other times, especially in the dramatic culmination of the poem in Book Five, he seems to have meant something quite different. Everything, he continued to say, consists of atoms and the void. But he offered this statement, not really as a history of the origin of the world or even as an ultimate judgment upon the world's essential nature, but rather as a claim that a certain kind of analysis of things is always possible and frequently productive of fruitful consequences. Physical science, he was arguing, has more promise for man's interpretation of nature and of his place in nature, than have supplication, propitiation, and kneeling before altars. Through the analysis of everything into atoms, mankind is liberated from bondage to superstitions and fears; and through attention to the results of that analysis, mankind has progressed and may further progress in civilization. Lucretius seems never himself to have resolved the issue between the two different ways of regarding the purport of physics. That he did not make more out of the latter way is perhaps a result of the fact that the state of physics in his day did not permit many competent analyses to be carried through or many fruitful uses of these analyses to be effected.

Oscillation between the alternative estimates of physics in Lucretius has continued to be manifest in philosophies of science down to and in our own day. According to one school of thought, physics is an effort to reach the ultimate nature of things. Lucretius's atoms have long since been analyzed and various types of smaller particles or elements

have been discovered. But, in every period of history, there is seemingly a lure which the most recently discovered microscopic or submicroscopic entities exercise over men's imaginations. Metaphysical theorists have too often yielded to this lure and have thereby fallen into what may be called the fallacy of the alleged priority of the spectacular. Molecules may indeed be ultimate relatively to one problem, atoms relatively to another, electrons or neutrons relatively to still a third. But nothing is ultimate for all purposes. If anything in nature is properly to be called ultimate, so is everything else. According to the other school of thought, the various particles are not units out of which nature is composed, but abstracted entities to which physicists turn in order to state correlations, regularities, constancies, in a better fashion than could be found by reference to any other aspects of the course of events.

This is not to suggest that atoms and electrons are arbitrary inventions or methodological pretenses, indulgently utilized in order to promote adroit manipulation of materials which are not really atomic or electronic in character. Such scientific objects as atoms and electrons are not themselves generalizations, though they enable us to make sounder generalizations than do other phases of events. They are not relations among the things that really exist in nature, though they stand to one another in relations to which other aspects of events may often be found to be correlated. They are not dependent upon our inquiries for their existence, though they facilitate and sustain many of our inquiries. Physics is more than an operational device: it is a discovery of selective aspects of nature's procedures. We do not have to choose between the notion that physics lays bare the essential truth about nature and the notion

that physics merely reports concerning our operations upon nature. Atoms and electrons may not have been seen or smelled; but their presence in the structural framework of events has been well authenticated. By reference to such particles, physicists can often formulate laws of uniform change within the very events which at first glance seem to have no aspects in common. The importance of their discovery ensues, not from their ontological priority (for there is no ground for asserting such priority), but from the need—the intellectual as well as the practical need—which men have to detect order amidst confusion and uniformity amidst diversity. The enterprise of physics, motivated by men's recognition of their dependence upon and interrelations with the rest of nature, realistic in its approach and in its results, is yet but a series of excursions into an inexhaustible subject-matter. It expresses a human need; it carries forward a human purpose; it achieves a human goal. It discovers that nature is such as to satisfy this need, to sanction this purpose, and to permit the realization of this goal. Physics is most profoundly understood when it is recognized to be as truly humanistic in character as is history. We may see through our window a panorama of mountains and valleys that invite us alluringly to climb their luxurious slopes and to explore their shadowy recesses; but the manifold possibilities of the landscape are not exhausted by the road we choose to take across the foothills or even to the summit of some craggy peak. Nature is such a panorama; physics is such a road, with its by-paths and its winding trails.

Physics, then, is more mathematical than history, but not consequently more accurate; it is also more single-minded in its conclusions, but not consequently more objective. Both fulfill purposes which men entertain in their

approach to nature, and which nature, because of what its causal pattern is, sustains. But we may now proceed to note a more important difference between the two types of science. The two differences already noted rest upon and are functions of this third and more basic difference between the two enterprises, basic in the sense that it most illuminatingly discloses the relations of history and physics to a metaphysical interpretation of nature. In the language used in summing up Aristotle's analysis of the pattern of events, history is concerned with the material cause and physics with the formal cause of events.

Any and every event may be treated both historically and physically. The two enterprises, directed as they are to different aspects of events, are, however, often best carried on in conjunction with each other. Historians may utilize their knowledge of the general laws of nature to guide their inferences concerning some particular matter of fact. They may, for instance, when confronted with an extremely involved situation, refer to some physical law or some psychological law to enable them to sort their facts and to lead them to evidence they might otherwise have missed. Physicists, perhaps even more frequently, employ the careful observation of a particular sequence of events as the means whereby they may formulate some general law about nature's behavior. They seek experimentally to determine the particular connection between one particular fact and another particular fact, in order then to pass to the enunciation of a principle of which the specific historical occasion is for them but an illustration. Such interinvolvement of history and physics in the pursuit of knowledge ought to be expected in any competent practice. For it is the same events that are capable of being both historically and physically explained. It is the same

events in which of course each of the four ultimate types of metaphysical factor can be found.

But though history and physics go hand in hand, though history and physics give knowledge of the same events, the two types of science are directed to different ends. History gives us an understanding of *what* we have to deal with, *what* any agent, animate or inanimate, has before it as the situation relatively to which, and to which alone, that agent can operate with causal efficacy. Physics gives us an understanding of *how* we may and may not deal with this subject-matter, *how* any agent, animate or inanimate, will, if it operates at all, affect the unfolding course of natural events. History, just because it deals with the material cause, must multiply details of some particular subject-matter, disclosing in that intricately interinvolved subject-matter its plural potentialities and, consequently, its equivocal bearing for further courses of historical change. Physics, just because it deals with the formal cause, must ignore many features of the many particulars concerning which it generalizes, seeking rather to discern the form of change among selected particulars, and stating that form as the kind of actuality which recurs in similar circumstances across the map of nature. Only when we realize that history faces towards matter and physics faces towards form, do we understand why the other differences we have noted are bound to characterize these two enterprises in their interpretations of nature. History is record; physics is technique. Both inevitably follow a principle of selection in their analyses; but they select for different purposes and towards the achievement of different ends.

Illustrations can be given in abundance of this third and basic difference between history and physics. The historian may tell the story of the building up of the delta

of the Nile; the physicist may state laws which describe in general terms the formation of deltas. The historian may tell the story of the evolution of our solar system from a more or less nebulous mass to the present distribution of matter in our sun and planets and moons; the physicist may formulate a planetesimal hypothesis concerning the formation of a plurality of worlds. The historian may tell the story of the disastrous explosion at Black Tom in the first World War; the physicist may reach a formula for the correlation of volume, temperature, and pressure of gases. And so on endlessly. The same difference can of course be found when we choose illustrations from human actions, though the customary usage of words may at first glance make it seem bizarre to speak of the physical principles of the rise and fall of civilizations and political and economic institutions. We will, however, but obscure the metaphysical purport of the two types of inquiry if we fear to carry through our terms in consistent fashion; we can better afford to employ words oddly than to analyze our subject-matter hesitatingly. Gibbon, let us then say, when he wrote his account of the decline of the Roman Empire, gave us history—at least, in the main. But when he touched satirically on certain human foibles, even caustically on certain occasions of human decadence, he was passing beyond sheer history and was suggesting what, if he had cared to develop his reflections in another fashion, would have become the physics of the decline of civilizations. Gibbon's satire, like Thucydides's generalizations about the horrors of the enslavement of subjugated peoples, like, too, Machiavelli's maxims about the techniques of competent statecraft, arose in the context of historical inquiry; but in their nature they are not part of the story but, implicitly, laws concerning a kind of sequence that

recurrently appears in nature. And such, if we may judge from the brilliance of mind in Gibbon and Thucydides and Machiavelli, these authors knew their generalized comments to be.

The same kind of intent seems to be present in the speculations of the Spenglers and the Toynbees about cycles and spans of civilization. These latter writers, however, have had less success in fulfilling their intent. They have had less success because they have tried to accomplish the task of physics by using the method of history. They have crowded masses of facts into formulae about "the decline of the West" or "rhythms in the history of civilizations." These masses of fact would be suited to the historical enterprise of exhibiting the richly involved nature of any one of the civilizations reviewed. But correlations are never discernible among such assemblages of facts in the gross. For laws of civilization, we should need to discover, amidst the welter of accompanying circumstances, the crucial items between which a correlation holds, to abstract these items, and to put all others aside. A physicist would not amplify our knowledge of correlations among pressure, temperature, and volume of gases, if he tried to insist that one could crowd into these formulae considerations about the chemical composition of the gases, the kind of containers in which the gases were placed, the biography of the scientists who did the investigation, and so forth. History cannot be pursued by the method of selection appropriate to physics, nor physics by the method of selection appropriate to history. Hence, if we would have an excursion into what we may call the physics of man's political and social life, we must be other than historians and must resort to an arrangement of data such as an historian, *qua* historian, does not provide. We may not

thereby reach a grandiose scheme which, by the sweep of its rhetoric, dazzles a too credulous public. We surely will not be warranted in turning soothsayers and prophesying concerning the destinies of men and of states. But we may reach sound generalizations about uniformities which can be found to hold among selected items within the texture of human affairs. History and physics are both possible in the treatment of inanimate subject-matters like gases; they are also both possible in the treatment of animate subject-matters like civilizations. But neither enterprise will eventuate happily unless carried on with sophisticated realization of the difference between material cause and formal cause and, consequently, of the difference between the kinds of selective methods by which respectively these two causes can best be known.

Failure to understand clearly what aspect of the causal pattern of nature is the main preoccupation of each of the two types of science is responsible for many errors in the uses to which the sciences are put.

Consider first the case of history. Critics of the view of history here defended sometimes claim that the historian, *qua* historian, both does and ought to attend to much more than the material cause. They insist, for instance, that the historian properly records the activities of many agents in their operations upon the materials they confront, even the devotion towards values which the materials make (or at least seem to make) possible. And of course these critics are in a sense quite correct. Their objection, however, though sound in pointing out that historians refer to operations of agents and pursuit of values, is unsound in the use it makes of this reference. Matter, as was said in a previous lecture, is not matter absolutely; neither indeed is agency agency absolutely, nor are values values absolutely. Once

an agency has acted, and once a value has been pursued and perhaps gained, that agency and that value become, so to speak, matter for further agencies to operate upon in the pursuit of further values. In other words, the efficient and final causes of which the narratives of a history take account are matter relatively to the function of the historian. They have occurred, have been woven into the texture of events, and thus have lost their former status of agency and value and have gained the new status of matter: they are no longer real except in so far as they have left traces in the matter which new agents confront and in which new values inhere. Mere matter, matter that is matter absolutely, though clear enough in idea, is not a subject-matter for investigation; there is, properly speaking, no science, natural or social, which considers it. We may go about crying "Here is this" and "There is that"; but as soon as we seek to understand these matters that are here and there, we set about to determine what they are, how they were produced, and what potentialities they have. A ton of iron is matter which may be before us, and so is a piece of labor legislation. Each of these is not less genuinely matter because we discover the agencies which formerly were involved in its production and the ends those agencies, if the agencies happen to be conscious agencies, sought through its production to secure. Matter understood is matter which can be handled competently, instead of matter into which one blindly bumps. The history of our American Civil War, with the countless agents who operated in diverse roles and with their many ideals, noble and base, is a disclosure of what that matter is with which we must now deal. The matter before us would not be what it is, had it not come about as it did; its history is an exposition of its present nature. And so also with a history

that ends with or is interrupted at any point in the past instead of coming down to the present. If a history of the Civil War terminates with Lee's surrender at Appamattox or is interrupted at the point where Lincoln has to decide whether or not to dismiss General McClellan from his command, the account gives what is matter relatively to an agent that confronted just what thus far in the narrative is disclosed. But the next item in the history is not then an efficient cause rather than matter. The record of Lincoln's dismissal of McClellan is not an on-going operation by Lincoln. That dismissal has occurred and is gone: it is not reenacted, it is only recorded, in history. And in record, that event has not the character it has in occurrence. One can imaginatively suspend the writing of history and try to decide how one would himself, as it were in Lincoln's place, deal with that issue. But an imaginative venture of that sort is someone's present act, not a reenactment of Lincoln's past act. It, while occurring, is agency at work; but Lincoln's past act, because not now occurring, is now matter. The character of agency at work is not found in history.

Yet even though the character of agency at work is not found in history, we ought not to ignore the difference between what in any past situation was matter for agencies that then confronted it and what certain agencies performed in the way of operations upon that matter. This error results in misleading interpretations of the course of nature. American historians, for example, occasionally say such things as that the fundamental cause of the Civil War was the institution of slavery, and dismiss, as mere "occasions," the acts which certain men performed at Washington and Richmond, at Fort Sumter and Baltimore. But the institution of slavery, though it confronted Lincoln

and Davis and millions of other Americans, was not an agent which compelled men to treat it in the fashions in which they actually did treat it. That institution, being past, no longer has today the potentialities it once had. It was then more genuinely equivocal in its meaning than it has now become. But it still did not drive, like an agent, to a single issue. Many slaveholders did various things to extend the area within which men could hold slaves; many abolitionists did various things to restrict that area or to destroy the institution altogether. All these men were formerly agents; and so, if we wish to go into more specific detail, were the thoughts of Lincoln and Davis about slavery and the military conflict, their utterances about slavery, their policies relatively to slavery. There is no such thing as "the cause" of the Civil War. There were its material causes and there were its efficient causes. The former could not have led to the Civil War without the latter, nor the latter without the former. Because both the material causes and the efficient causes of the Civil War are now matter for us, we yet ought not to treat the material causes as if they had once been efficient causes. The efficient causes of the Civil War were extremely pluralistic, some of immense purport, others quite minor; they consist of a host of conflicting, cooperating, independent, and interlocked agencies that performed a host of conflicting, cooperating, independent, and interlocked results. An historian may, if he chooses, write the history of the Civil War from the standpoint, let us say, of General McClellan. In that case, Lincoln and Davis and their acts are matter relatively to the purpose of the historian and the theme of his narrative. At any point in the history, McClellan's past acts too are part of the matter he confronted relatively to what he was about to do, and the

next act he performed became matter before him as soon as it was completed. But in any case, an historian is not entitled, because the situation which many thousands of agents confronted during the Civil War was characterized by a dramatic and momentous institution, to turn that institution into a kind of omnibus cause. To do this is to yield to a metaphysical confusion of matter with agency and so to propagate an error that lies at the basis of much current mythology. It leads American historians to speak of "irrepressible conflict" and "manifest destiny." A similar instance of the error is found in the statement that the Treaty of Versailles caused the second World War. We are no more warranted in saying such things than in affirming that the gasoline in the cylinders of an automobile produces the explosion of the gasoline, or that a rocky peak produces the attempts of mountain climbers to scale its heights. The material upon which agents act may of course, as was said above, be also simultaneously acting upon them; but its act upon them is not their act upon it. The distinction between matter and agency remains. Materials always condition the agencies that act, limiting the range of specificity which their actions upon it may have. But likewise, no materials, *qua* materials, produce the agents that act or determine which of its potentialities those agents may bring into actuality. Matter is an opportunity proffered and a limitation imposed. It is not an agency that chooses or compels. To turn some large and looming mass of matter into a glorified efficient cause is to distort the contingency of history and to transform natural change into an inevitable outworking of the past, thus viewing agents, because, in order to act, they must have matter before them, as victims of the situations in which their actions occur. Were this supposition correct, then the more

history we knew, the more doomed we would find ourselves to destinies allotted to us from the past. But when we consider history as the presentation to us of the matter for our actions, the more informed we become, the more emancipated we are from unforeseen impulses, the more equipped we prove to be for intelligent exercise of a degree of power over that area of nature which we have come to understand.

As historians at times confuse matter and agency, so physicists at times confuse form and agency. Particularly is this the case when, as we saw in a previous lecture, physicists, confining themselves to a universe of discourse pertinent for epistemological analysis, affirm that there is no proper meaning to the word cause except general formula or law. Strange it may seem, but true it none the less is, that neglect of the dynamic factor of causal agency and adoption of notions of cosmic inevitability go philosophically hand in hand. Laws, however, state always that, if a given kind of agency operates in a given way upon a given kind of matter, then a definite kind of outcome will occur. Laws never state that the given agencies must operate, that they must operate in the given way, or that the given kind of matter will be present as the situation upon which they may act. Law is indeed cause, in a sense; but it is formal cause, not efficient cause; and matter is indeed cause, in a sense; but it is material cause, not efficient cause. Certain speculative minds among enthusiasts for physics drift into theories of inevitability in nature, not because they take cognizance of the forces which impel events with varying degrees of power, sometimes slight and sometimes stupendous, but because they ignore these forces and think of one item of matter as surely connected with another item of matter by uniform correlation. The error

here is in taking what is quite essential to the enterprise of physics as giving what is also essential and sufficient to the whole course of nature.

Nature, we have contended, is not one thing nor one kind of thing, but the existential context of everything that comes into being, endures for a time, and passes away. None of our summaries of its contents exhausts its seemingly endless resources. Its course, however, exhibits a causal pattern which, so far as our best information carries us, is everywhere akin and so permits metaphysical generalization. This pattern is one in which matter, form, agency, and value are inextricably entwined in fact but distinguishable in idea. History and physics, alike in being specialized inquiries in satisfaction of certain basic human purposes, differ, however, in the purposes they promote and in the direction of their analyses. The former traces through its chronological narratives the matter upon which whatever agency operates must expend its force. The latter formulates through its abstract principles the possible forms of events and so erects a body of logically interrelated laws from which is necessarily absent the full particularity of the concrete materials thus summarily described. Neither one of these enterprises alone nor the two of them together give an adequate account of either nature or man. Their instruction therefore needs supplementation from a consideration of the other two factors in the causal pattern of nature, the efficient cause and the final cause. To consideration of these further factors we must turn for understanding of the degree of freedom and the measure of happiness men can hope to have within the kind of nature by which their occurrence and their fortunes are conditioned.

THE NATURAL BASIS OF FREEDOM

HISTORY and physics, if developed with mature competence, give man the opportunity for achieving some measure of effectiveness in establishing his due place in nature. They release him from the bonds of ignorance and from the sheerly mechanical routine of untutored impulse. Man could respond, without history, to only the superficial aspects of his surroundings, and, without physics, in only a hope, a hope which would indeed be ordinarily quite vain, that the outcome of impulse would not be disastrous. Through history, man gains fuller information, fuller, that is, than he could glean from the present testimony of his senses or the records of his individual memory, of the situation by which he is confronted and of which he must take some account. He is thus enabled to elaborate upon the immediately evident features of his world and to adjust his actions to a longer and a larger situation. He comes to realize what the forces are that are resident in that situation, what the direction is in which those forces, prior to and apart from his action upon them, are moving, what the causes are that brought the situation to pass and are perhaps still potent within it, what the types of ends are that have been already realized or at least sought, what the values are that have been cherished, what the ideals are which have been aspired to.

But relatively to him to whom these complex considerations of history are presented, these many factors—these causal forces and ends and values—these structural materials of both the physical and the social worlds—are all alike matter; they are the matter upon which his action, if and when he acts, and in so far as he would act effectively, must occur. They do not, however, specify how he must proceed to act upon the materials before him, nor determine to what new end his action upon the materials may be directed. Similarly with physics. Through physics, man gains techniques of procedure for his prospective operations upon matter. He comes into the means of foresight concerning the import for the future of the different courses of action he may pursue. He is thus enabled to transform sheer impulse into intelligent purpose, so that his action will be, not a merely emotional response to the present situation, but a wise control of present materials in the interest of future ends to be realized. The laws of physics are not formulae to be obeyed, but descriptions of types of necessity in natural connections and, hence, devices to be depended upon and utilized. Physics, no more than history, specifies what line of action man must take or which kind of end he must pursue. Knowledge, said Plato, is virtue; knowledge, said Francis Bacon and Thomas Hobbes, is power; knowledge, said Aristotle, is happiness. Knowledge is indeed all three of these things, though the Aristotelian maxim is perhaps the most profound. Knowledge, both of history and of physics, is the only instrumentality by which man can effectually and significantly change the status he has in nature. For that status is not, once and for all, the same. Equipped with history and physics, man can change his place in nature from one of submersion in a welter of vaguely felt forces that loom

and threaten, into one of gradual emergence into a planned economy for ends that promise and reward. Man has never been the lord of creation and will doubtless never be such. He remains, in the moments of even his finest development, conditioned by the natural circumstances of his genesis and his precarious survival. But these conditioning circumstances define the basis, not the destiny, of human existence within nature. The place of man in nature may be, it may yet become, whatever man, profiting from sophisticated grasp of history and physics, is able to fashion in the growth of his resolution to understand and to do.

History and physics, it was just said, give man the opportunity for achievement. The key word in this statement is opportunity. Opportunity is not prescription. It is not coercion. It is that conjuncture of circumstances which, if wisely seized, will yield a measure of accomplishment. To agents other than man, a natural situation is not an opportunity; to them, it is but an occasion upon which they expend their causal efficacy. Only to man, only, at least, to rational agents with history and physics, is a natural situation more than an occasion, is it also an opportunity. While every natural situation imposes certain limitations upon the agencies that operate upon it, it also, when and only when those agencies are intelligent and informed, exposes certain alternative ways of exercising such operative power as they possess. The point is briefly this. The more fully a man understands both the situation before him (and this is a matter of history) and the predictable consequences of various ways of treating it (and this is a matter of physics), the less he is committed to any single line of action upon it.

Deterministic philosophies have been formulated to the effect that through the sciences we progressively discover

that man acts necessarily as a cog, even though a tremendously complex cog, in a machine which confines him to an inevitable role. Empirically examined and tested, this hypothesis, an hypothesis popular where sedulous zeal for science is more common than critical appraisal of science, is not in accord with the facts. Iron ore, for example, is matter for action; out of it, an intelligent agent may fashion, not, to be sure, whatever he may dream of in fancy, but such various products as girders for buildings, steel rails, pen points, or nails. The Constitution of the United States, too, is matter for action; it commands allegiance and demands respect, but it yet leaves to the loyal citizen a variety of programs of political action. It is constantly becoming—as judges interpret its provisions, as presidents stretch its old meanings, as legislatures implement its clauses in new laws, as the people cooperate in amending its articles—it is constantly becoming something other than what it once was or now is, something continuous, to be sure, with its history, but embodying fresh possibilities for the future. Nature's pluralism, its multiplicity of actualities each with its manifold potentialities, though it may not sanction everything a man's heart may desire, yields different results according to the course of action this man and/or that man may take relatively to this feature and/or that feature of the multiplicity. Only confusion will result if the efficient cause, the active principle of events, is confused with the material cause upon which it operates or with the formal cause that abstractly describes the outcome to which a type of action will lead. This confusion is found, so far as *practice* is concerned, in the despondencies and the sense of futility that hamper effective living; it is found, so far as *theory* is concerned, in the metaphysical obscurantisms that arise from lumping

the distinct and distinguishable phases of the causal pattern of nature under one undiscriminating causal heading. To regard the efficient cause of action as determined by history is to annul the difference between agency and matter. To regard it as determined by physics is to annul the difference between agency and form. Both these differences, however, are facts that can be discovered everywhere in nature's structure; they ought to be kept clearly in mind in both human practice and metaphysical theory alike.

The agency of man in nature is both akin to and different from other agencies. Both types of agency are action upon materials presented; both types of agency result in transformations of this material in a manner which can be described in terms of uniform laws. But to the former the material presented is, to use again an expression already employed, an occasion, while to the latter it may be also an opportunity. To say this is not to indulge in fantasy. Man, a product of nature, is yet a distinctive product. Man, to be sure, would not be what actually he is, were nature not what it is. But, as may be said with equal justice, nature would not be what actually it is, were man not what he is. Man cannot be justly interpreted except in his position in the rest of nature; and, quite as truly, nature cannot be justly interpreted except in the light of the appearance of man and his ways in its midst. Man is as natural as sticks and stones. But man is a more revealing object than sticks and stones for him who would understand nature and would formulate a credible metaphysics. This remark can be made without any taint of egoistic preference or anthropomorphic bias. Nature exhibits its fuller capacities in its more complex and mature products. Man, a special case of nature's ways, as indeed is everything else we can mention, lifts up into the explicit or patent course

of his living much that elsewhere in nature is only implicit or latent. Nature is chemical in its processes, and in man this chemistry sometimes becomes digestion. Nature is full of occasions, and in man these occasions sometimes become opportunities. Man chooses; and while there is no evidence of anything akin to choice in sticks and stones, there is yet in sticks and stones the natural basis of what, on occasion, becomes choice in man. If it be superstition to attribute choice to sticks and stones because choice is found in man, it is obscurantism to deny choice to man because it is not found in sticks and stones. To treat what is distinctive in man as "mere appearance" is to commit oneself to an inadequate view of both man and nature. "Man in nature," wrote Professor Dewey, "is man subjected; nature in man, recognized and used, is intelligence and art." [1] Man in nature is man leveled down to other types of nature's products: man in nature, in this sense, is man ignorant, man without history and physics. Nature in man, again in this sense, is history and physics, and civilization and choice. Nature in man is nature brought to a special form of fulfillment in which are displayed distinctive manners of which the rest of nature is not actually capable. We need to study sticks and stones, in order by contrast to appreciate man. We need also to study man, in order with thoroughness to appreciate nature. Only through both lines of study can we avoid, on the one hand, an anthropomorphic romanticism about nature, and, on the other hand, an insensitive materialism about man. Only thus can we render full justice to either man or nature, and reach a metaphysics that is consonant with all the facts we can detect.

A start, however, must be made somewhere, even when

[1] *Experience and Nature,* 1st ed., Chicago, 1925, p. 28.

metaphysical generalization is the objective. Let us then here begin with a uniquely human event, in order later to examine its basis in the more general constitution of nature. Let us begin with the specifically human event which is called choice. The word choice is not ordinarily a technical term, but it becomes such for purposes of the present discussion. Choice is that commitment in human action which eventuates from reflective judgment concerning a good to be sought. Many human actions, even many voluntary human actions, are not choices. We often act from impulse, even when not under the coercion of external forces; we often act thoughtlessly, even when not in violation of defensible moral standards. But, also, we sometimes act in accord with a decision which arises in and through our efforts reasonably to determine an end we deem good and shall for that very consideration pursue. That is, we sometimes act with moral purpose. So to act is to qualify impulse and desire and emotion, that is, to qualify all the non-rational phases of our living, by judgment of a good to the attainment of which every impulse and desire and emotion ought to be subordinated. It is to act organically, so to speak—to act, not from the impelling force of the psychological drives which, prior to such judgment, may have been leading us in a certain direction, but from a purpose which may possibly commit us more resolutely to move in that direction but more probably commits us to a different course. Choice, thus made, is not the substitution of reason for the non-rational phases of our nature; for reason *qua* reason, if indeed anyone—and this is dubious—can identify reason as a separate phase of our living, would probably be effete and impotent. It is rather a reorganization of all phases of our nature—a reorganization which ensues only if and when we under-

stand what we ourselves are, what the natural situation is we confront, and what good may come from our interaction with that situation. It is action in the light of an informed estimate of the meaning our action may have for the future we are helping to bring into being. So to act is to choose. So to choose is to be free.

Freedom, we should at once recognize, is never, for us human beings, total. We cannot, on the one hand, make a complete analysis of the whole natural situation we confront, with its many actualities and its even more numerous potentialities. We cannot, on the other hand, relate the many separate impulses within us, the elusive emotional forces and possibly pathological disturbances, in one embracing pattern of final comprehensiveness. We never succeed in viewing either nature around us or nature within us *sub specie aeternitatis*. We can therefore never be certain, as we shall see more fully when we consider in the next lecture our quest for happiness, that our judgment of what is good is correctly made. We choose more or less wisely. We remain, in even our fairly competent choices, subject to precarious chances, chances of the intrusion of external forces we do not foresee, chances of the eruption of internal forces we do not understand, chances of error in estimating the good which is really the best that is available to us. The moral profit from our freedom will thus vary from case to case. Yet we do have grounds to believe that at times we make fairly reasonable choices. And to the extent that we do choose reasonably, our freedom will eventuate in our happiness.

We shall be concerned in the next lecture with certain benefits to be gained from our freedom. We have now two preliminary matters to make clear, first, the nature of freedom, and, secondly, the basis of freedom in the causal

pattern of natural events. And, first, then, the nature of freedom. The views here maintained in regard to the nature of freedom are quite different from those advanced by Hobbes and Spinoza, easily the two greatest moralists of the seventeenth century. The views here maintained may therefore be pointed up by contrasting them with the theories of these two thinkers of the past.

Hobbes, you will recall, defined the will as "the last appetite in deliberation." [2] And deliberation, as he treated it, is a period of suspension of action, during which period a number of appetites and hopes and fears play upon one another, until, by a composition of forces, a final synthetic impulse triumphs and leads into action in which that impulse is expressed. Hobbes was here carrying out his general schematism, according to which everything in nature operates as defined by the laws of mechanics. Body, he thought, is the only substance; and the human body (or man) and the corporate body (or the state) are but complex instances of such material occurrences as, in simpler form, are encountered in wind and rain, lightning and thunder. The will, according to this view, is merely the impulse which in the end proves strongest; and deliberation, though preliminary to this impulse and permitting it to become manifest, is yet not productive of it nor in its control. Deliberation merely provides time for it to occur, suspending other impulses from precipitant expression in action and affording opportunity for resolution of many bodily forces into one collective force. Hobbes was thus led, in his otherwise quite keenly sensitive political theory, to sponsor absolutism in government; he sponsored absolutism because of his conviction that societies must create a threat to impinge upon men's other

[2] *Leviathan,* Chapter VI, near the close of the chapter.

impulses, to enter into composition with these other impulses, and so to induce men to act in the interests of peace and civil obedience. Though himself in many respects a rationalist, he distrusted the degree of influence human reflections might have. He deemed reflection inadequate to the role of guiding conduct, except in the sense that reflections, delaying one's response, gave time for an artificially imposed threat to have its weight in the final decision. Aristotle had said centuries earlier that "we deliberate, not about ends, but about means." [3] Whatever this may mean in Aristotle, it means in Hobbes (who often followed Aristotle in so far as he could use Aristotle's teachings within the context of his own materialistic schematism) that human passions determine men's ends, and that deliberation does nothing but provide time for these passions, both the native ones and the socially induced ones, to find their mechanical balance. For Hobbes, then, freedom, or liberty as he usually preferred to say, is, not guidance of impulse by a disinterested judgment of value, but the removal of precipitancy and other obstacles to unhampered expression of the strongest impulse.

Spinoza's philosophy culminates in his magnificent contrast between human bondage and human freedom. Human bondage is subjection to passions, and passions are disturbances produced within man by the things around him. Human freedom is enlightenment through the possession of clear and distinct ideas, and clear and distinct ideas are an understanding of the place each and every thing has in "the order of nature as a whole" (*cum ordine totius Naturae*).[4] In bondage, man is under the control of forces that play upon him from without and make him

[3] Aristotle, *Ethics,* Book III, Chapter 5, p. 1112 b 12.
[4] Spinoza, *Ethics,* Part IV, closing sentence.

their creature. In freedom, man sees himself and other things as they truly are and surely must be, and so is disturbed by nothing. The free man, Spinoza maintained, is not perturbed by fears of *evils* that seem to menace him; for he understands that all those things of which men in bondage are afraid are exactly as they must in the course of nature necessarily be. The free man, likewise, is not perturbed by yearning for *goods* that seem to invite him; for, again, he understands that all those things for which men in bondage yearn are exactly as they too must in the course of nature necessarily be. In so far as men are free, Spinoza frankly stated, they "form no conception of good and of evil." [5] Human freedom is not at all the formation of a moral purpose which may be an effective factor in the history of the world; it is rather an internal discipline of the mind whereby men learn humbly and serenely to accept a status in nature that is necessary. Freedom, so conceived, if it be at all—and its being, Spinoza confessed, is rare—is but one of the necessary events in nature. Such freedom, Spinoza explicitly said, can be imagined to accompany the motion of even a stone. A stone, he wrote, "would, if aware of its own falling, believe itself to be completely free and would think that it continued in motion solely because of its own wish." "I place freedom," he wrote to one of his correspondents, "not in free decision, but in free necessity." [6] Stones are not free, and men, sometimes if rarely, are free. But the difference, Spinoza thought, is not in the degree of inevitability with which their respective conditions ensue from "the order of nature as a whole"—for in both cases the inevitability is complete

[5] *Ibid.*, Proposition 68.

[6] In a letter written in 1674. Cf. *Correspondence* in Vol. II of the edition of Spinoza's *Works* in Bohn's Philosophical Library, p. 390.

and unbroken. The difference is rather in the fact that, in the case of men and not of stones, a mind at peace witnesses that order of nature without protest. Men, no less inevitably than stones, act in accord with their necessary role in nature; but they are so constituted by nature that they at times acquiesce gracefully in the onward march of events. An implicit note of sadness thus sounds through the majestic development of Spinoza's thought. "It is impossible," he wrote, "that man should not be a part of Nature." [7] Inclusion within nature is, for him, not so much the basis of the kind of achievement of which man is capable, but the mark of his unescapable limitations. To man's resigned acceptance of his status in nature, Spinoza gave the name blessedness (*beatitudo*). He could hardly have used the term happiness; for happiness normally connotes the pursuit and the achievement of goods nature makes possible but does not guarantee. And happiness, in any such sense, Spinoza did not regard as possible.

Against the theories of these two great moralists, the view defended in these lectures is that judgment as to what is good may be, and at times really is, the means whereby changes are effected in the impulses within a man and thereby in the course of events in the environment of man. Human agents are not driven automatically, at least not always, in the direction of the psychologically strongest impulse. Nor is judgment but a temporary halt in the precipitancy of action. There is of course much unconscious bias in human thinking; what Hobbes said concerning deliberation is probably an adequate description of many of man's so-called decisions. But to regard all judgments

[7] Spinoza, *Ethics*, Part IV, Proposition 4. This proposition, absolutely requisite to Spinoza's thought, contains the crucial ground of the tragedy which for him is an inescapable fact about the moral life.

as the necessary outcome of a mechanistic balance among a complex of psychological forces would, if correctly maintained, invalidate even the judgment that such is the case. Judgment aims at the truth, and at times it reaches the truth. Its decisions, in other words, may be made in answer to an inquiry concerning what, in the light of all the factors, internal and external, is really the best thing to do in a given set of circumstances. Judgment is often about ends as well as about means. And objectivity of judgment is possible about what is really good, as truly as it is possible about the facts of history or the laws of physics. If men often make decisions that reflect their non-rational mental drives, they also occasionally reach judgments that disclose a specifically human rationality and eventuate in a specifically human act of choice. Judgment is not always acquiescence in an engulfing necessity, but is sometimes a directing decision of what, through judgment and by no other means, the course of nature is thereby in part to become. Judgment may at times, if wise, be acquiescence in a course of events we cannot possibly control. The horrors of civil persecution and of war have recently brought home to us all how often men have no alternative to bowing before brutal forces. Where happiness cannot be won, blessedness must indeed suffice. But resignation is far from being the whole of wisdom. The area of nature within which men freely choose their ends varies from time to time and from place to place. Bondage is common; but freedom is yet sometimes actual. Spinoza's gospel is noble. The serene mind is an admirable achievement. But serenity, like patriotism, is not enough. Choice is as evident a fact as any event we can observe within or without us, even if it is but an occasional and a partial factor, and not a constant and all-prevailing force, in human affairs. Hobbes and Spinoza had to define

freedom otherwise, because they began with non-human nature and then had to fit man rigorously into what that non-human nature seemed to them to be.

The point at issue is exactly this. There is a difference between, on the one hand, believing that a thing is good because, after temporary suspension of action, that thing is what one most strongly desires, and, on the other hand, disciplining any and all impulses and desires by reflective decision concerning what end or ends are really good. Or, to put the point in other words, there is a difference between, on the one hand, believing that something is good because one is driven by non-rational forces so to believe, and, on the other hand, making a choice because one's objective judgment as to what is good makes that decision incumbent upon one. Human experience, carefully examined, warrants us in asserting that the latter is not just a subtly disguised version of the former. Of course judgment is not always sound, even when it is rationally made; it is not always sound in moral matters any more than it is always sound in historical and in physical matters. Freedom, therefore, ought not to be loosely used in a eulogistic sense. Judgment is not always sound; and so freedom does not always issue in wisdom, in virtue, and in happiness. Lack of freedom would deprive human beings of an opportunity for their specifically human role in nature; but possession of freedom does not guarantee the happy use of that opportunity. Nor is there any assurance that judgment, even when soundly made, will restrain men from being swept away by some intense passion. Every human being, sadly enough, has had abundant occasion to echo the confession which Ovid voiced in his famous lines: [8]

[8] *Metamorphoses,* Book VII, lines 20–21.

Video meliora proboque,
Deteriora sequor.

But most men have also had some occasion to observe that moral judgment can prevail. The point relevant to the present discussion is neither the degree of accuracy nor the degree of efficiency which our judgments concerning the good have in human life. The point is rather that moral judgments, as specifically human acts, do at times occur and bear fruit. When such judgments are made and prevail, choice occurs, and men, agents capable of rationality, then exhibit a uniquely human trait that distinguishes them among the complex of forces that constitute the course of nature. Nature, if it is to be interpreted justly, must be viewed in the light of this fact.

So much, at least for the present, concerning the nature of freedom. We come next to consider the basis of freedom in the causal pattern of events. And here we are at once on the battlefield where has been waged the age-old controversy between libertarianism and determinism. This ancient problem, though repeatedly discussed—though discussed by some of the great thinkers of history—remains to haunt philosophical controversy. It remains to haunt philosophical controversy, not because it has never been solved —for a solution, or an outline of a solution, can be found in Aristotle and the tradition that stems from him—but because it is normally posed in a form that obscures the issue and prevents understanding of its import for a theory of nature and of history. Time does not permit a review here of the intricacies of argument and of the mutual recriminations that have marked the course of the controversy. But we need to state the issue in a form that will permit profit-

able discussion and will direct attention to the crucial metaphysical point at stake in the ancient debate.

Libertarians, on the one hand, have been anxious, above all else, to hold man responsible for his acts. They have been sensitively realistic in their attention to certain aspects of his moral life. But they have usually lacked concern for metaphysical considerations and have not cared to note the bearings of their theory of man on a general theory of nature. Roused to indignation by determinists' applications of the idea of natural necessity to human affairs, they have retaliated, as it were, by proclaiming a doctrine of free will. According to this doctrine, man sometimes exercises a will that is unconditioned by any of its natural antecedents. But there is no evidence of unconditioned willing in nature any more than there is evidence of unconditioned growth or unconditioned expansion. Men will and plants grow and metals expand. But all these occurrences have their natural occasions and conditions; they all illustrate in their several ways the general causal pattern of nature. None of them is a sudden and inexplicable happening without its natural cause. Free will, did it occur, would be, in each instance of its exercise, an interference with the laws of physics, an interference which might well be called miraculous. Libertarians have not been competently interested to consider the implications of their doctrine of free will for ontology. They have been prone to abandon the rest of nature to the causal conceptions of the determinists, provided only that they be allowed to exempt certain human decisions from the range to which these causal conceptions are to be supposed applicable. Their doctrine of free will is thus a kind of *ad hoc* invention that lacks correlation with verifiable conclusions about the natural status of man as an exhibition in special circumstances of nature's general

ways. Libertarians, we may fairly say in summary criticism, have been too desperately zealous about man and too casually indifferent about nature. Either the deterministic metaphysics is sound, in which case it has to be applied to man along with everything else, or it is unsound, in which case a resort to the miracle of free will is not the kind of opposition that will be effective in its exposure. No one is entitled to reject a metaphysics because he does not like its moral tone.

Determinists, on the other hand, have had a primarily metaphysical interest. They have formulated a theory of natural causality which they have then wished to apply uncompromisingly to everything in nature, to man as well as to all other things. But, out of a respect for the sciences, that is, for history and physics, they have too quickly supposed that what those sciences indicate concerning nature suffices for a total understanding of nature's causal pattern. They have had the virtue of consistency in application of their principles. They have begun with nature and cannot then see how man can manifest a trait not also found elsewhere. They have affirmed, as their conception of the causal pattern of nature, the principle that every event that occurs is the effect of an antecedent cause that produced it and in its turn the cause of a consequent effect it produces. This formula has been repeated so often in modern philosophy and scientific and even popular discussions, that it has come to seem to many as obvious as it is simple. Upon analysis, however, it proves to contain some implications which are far from being either obvious or simple. The crucial words in the formula are the adjectives antecedent and consequent. Determinism is by no means equivalent to fatalism and is, indeed, seldom pressed into fatalistic form. Man, according to determinism, is, like any and

every other thing that exists, a genuine agent with his respective share in the determination of events. As a meteor makes a difference because of its flight through the atmosphere or its collision with the earth, so man makes a difference because of his ways of responding to the stimuli that play upon him. But—and here the force of determinism becomes apparent—one meteor is bound to fly and another to collide; the behavior of each of them is the inevitable result of its being the kind of thing it is in the kind of situation it is in. And so man is bound to respond as he does; his behavior too is the inevitable result of his being the kind of thing he is in the kind of situation he is in. He has his natural impulses, feels emotions, entertains ideas, considers different possible ends to be sought, decides among these ends, and acts in accord with those decisions except when externally coerced or swept away by his own passions. But every action in nature, every decision by a man as truly as every flight of a meteor, is a definite one-valued function of what was prior to it. Man's temperament, his mental capacities, his foresight, his preferences are all the result of heredity and environment. They come about because of the factors that issued necessarily in them, and they will necessarily bring about the results which alone can issue from them. Nature thus marches along inevitably from determination to determination; and man and his ways are but part of this cosmic march.

The issue usually debated between libertarians and determinists is whether man's behavior can be made an exception to nature's causal pattern. Such an issue ought not to be raised. Stated in these terms, the debate has always gone in favor of determinism. But the issue really to be faced is rather whether the deterministic conception of causality is adequate to an understanding of nature's

course. This issue can be soundly settled only through a theory of man's place in nature which brings two points together in consistent statement—the continuity of man with the rest of nature and the distinctive character of man within nature. The problem is not initially ethical, though it has its implications for ethics. It is primarily metaphysical. What description, we ought to ask, what description of the casual processes of nature takes due account of all the facts, the facts of history, the facts of physics, *and* the facts of human choice? Can all these facts be justly summed up in one consistent formula?

In seeking an answer to this question, it will be profitable to begin by probing some of the implications of the deterministic formula concerning causality. These implications, it should in fairness be acknowledged, are not all professed by all determinists. They seem, however, to be valid deductions from the deterministic formula and so give us a means of measuring the adequacy of that formula.

In the first place, the deterministic formula is equivalent to the statement that the past produced the present and the present produces the future. The present, then, has nothing distinctive about it except its date. We supposedly would not discover in the present moment any factor that we could not just as well discover in any and every moment of the past. We human beings feel a glow of romantic concern for the present because we are directly aware of its fateful passage. We enlarge upon its importance, as we enlarge upon the events which go on on the surface of the earth or even in our immediate neighborhood, because that is when and where we momentarily are. But the world in its historical occurrence is a succession of states of being, no one of which is metaphysically more privileged, or epistemologically more enlightening, than the others. If

yesterday produced today and today is in course of producing tomorrow, then yesterday is the cause of tomorrow, and there is hardly any good reason for continuing to mention today. Present divides past from future, in the deterministic view of the matter, as one point on a string divides the string into two parts. We may, in the case of the string, choose the middle point for aesthetic reasons; but time is infinite, and there is no sense in considering the present moment metaphysically central. There would be only human prejudice then in featuring the present as more significant causally than is any other moment, say noon of July 4, 1776, Philadelphia time. The state of the universe at noon of July 4, 1776, was the effect of all that was prior to it and the cause of all that has come to pass or will yet come to pass after it. The present thus fades into a metaphysical twilight. We might drop all reference to the present and say boldly that the past is cause of the future.

In the second place, if what is antecedent produces what is consequent, individual things cease to be as significant causally as they are commonly supposed to be. An effect is seldom consequent to a single antecedent, and a cause is seldom antecedent to a single consequent. It is whole groups of items that are antecedent to whole groups of other items that are consequents. And there seems to be no limit to the number of items which have to be included in each group in order adequately to review the complexity of natural causation. We may find it a practical convenience, but we are guilty of a theoretical narrowness of vision, if we pick out one antecedent and call it the cause of an event, and then refer to all other antecedents as merely accompanying conditions. John Stuart Mill put the point forcefully when he wrote: "The real Cause is the

whole of these antecedents; and we have, philosophically speaking, no right to give the name of cause to one of them, exclusively of the others. . . . All the conditions were equally indispensable to the production of the consequent; and the statement of the cause is incomplete, unless in some shape or other we introduce them all." [9] Once this line of interpretation of causality is taken, there is no obvious point at which to stop; for every antecedent, indeed, every collection of antecedents however numerous, has its environment upon which it is dependent for being what it is. Thus the whole universe seems to be involved in producing any and every causal change. And of course the same line of interpretation must, if it is to be carried out thoroughly and consistently, be applied the other way round too. There is no reason for picking out any one consequent as an effect. The antecedents of a selected effect have also other effects; they produce not only the selected effect in which our personal interest may center, but a vast body of effects. Only partisan preference on man's part could therefore lead him to pick and choose among either causes or effects. Properly, as we ought then to say, an antecedent state of the universe produces a consequent state of the universe. Anything less than this would be capricious limitation in our references to natural causality. The individual, in this way of arguing about nature, is causally significant, only as a necessary part in an infinite whole. And thus, not simply the present moment, but each individual separately, fades into obscurity in the deterministic picture of causality.

In the third place, if what is antecedent produces what is consequent, the causal pattern of nature would be the passage from one actuality to another actuality. Determin-

[9] *Logic*, Book III, Chapter V, Section 3.

ists could not consistently take into account the plural and incompatible potentialities of the existing materials of the universe. For why do some of these potentialities rather than others flower into actualities? The selection is surely not due to the antecedent material. For other potentialities were present in that material too; and none of the potentialities, since they were potentialities and not actualities, could act. The selection is surely not due to the laws of nature either; for the laws of nature, though they describe all causal sequences, are purely formal and not productive of the processes they describe. Determinists seem logically committed to a denial of potentiality as a metaphysical fact. They ought to say that nothing is ever potential except what later becomes actual. They ought to say that what we call potential is so called only relatively to our ignorance of the entire situation and the inevitable development which will ensue. The passage of nature from one state of actuality to another state of actuality thus appears to be a kind of—what shall we say?—a kind of immanent evolution, perhaps. The passage is mere undifferentiated passage. It is treated, in the logic of the deterministic position about causality, as if it occurred solely from an inherent drive in the antecedent existence of the material of nature. Potentiality, like belief in the present moment as causally distinctive, like, too, belief in an individual agent as in its own efficacy significant—potentiality would be a mere convenience of speaking, a convenience adopted by men because they do not know all things and therefore lack the ability to make their utterances more accurate. Determinists, through claiming that the course of history is the unfolding of an inevitability in nature, are thus driven to reject emphasis on the present moment, emphasis on individuality of agency, and emphasis on nature's rich

potentiality. These commonplace emphases, they should grant, are due to our uncertainty, not to nature's. But our very feeling of uncertainty, determinists hasten to add, is itself but one of the certain by-products, like an ache or a pain, within the necessary whole. The occurrence of uncertainty would not be an uncertain occurrence. The contingency of knowledge would not be knowledge of contingency.

Now he may believe the deterministic theory who can. The theory has a certain dialectical neatness: it seems finished and complete, more finished and complete, indeed, than the course of nature of which it allegedly is true. But repeatedly, as it has been formulated and reformulated, it has seemed unconvincing even to many who yet have not been able to put a finger on the exact point where it is in error. It has more often been blandly ignored than analyzed and refuted. And discussion has been allowed to turn to other issues where perhaps views incompatible with it have been developed as if it did not remain an urgent matter of unfinished philosophical business. It ought to be more directly faced and its metaphysical weakness made clear.

The basic fault with determinism is that it involves a confusion of the various distinguishable elements in the causal pattern of nature. Determinists, as was suggested in a previous lecture, speak of cause in a kind of omnibus fashion. They absorb the efficient cause into the material cause and the formal cause. Or, to put the point in other words, they ignore the efficient cause and speak as if the material cause were productive in and through itself alone. For only the material cause, only it out of the four causes we can distinguish in the causal pattern of nature, is antecedent to the initiation of change. Determinists have been

keenly zealous to cast their thinking into accord with the findings of the sciences; they have regarded as spurious any concept the sciences did not utilize and endorse. But what are the sciences which deal with existence? They are two—history and physics. The former is a treatment of the material cause in nature; the other is a treatment of the formal cause in nature. Neither treats the efficient cause as such. There is no science of the efficient cause. There is no science of the efficient cause because the efficient cause is the contingent factor in events.

We must more fully consider the purport of the concept of contingency for an analysis of nature. Determinists of course often claim to have taken contingency into account and to have put it in its proper place in their theory. Note, however, the kind of contingency they grant. They grant contingency in two respects. They grant, on the one hand, a contingency of fact. The earth, for instance, has one moon, the planet Uranus five moons, and Jupiter fifteen. We could of course, if we knew enough natural history, explain why this particular lunar arrangement now exists. But that explanation would be in terms of some prior existences, which would in turn be explained in terms of some still prior existences, and so on without end. Hence existence as a whole has to be regarded as contingent. We can imagine a nature different from what is. But imagination is not factual determination. While everything in nature is necessary, nature as a whole is contingent. It is what it is, and that is an end to discussion. Then again, determinists grant, on the other hand, a contingency of law. Bodies attract one another proportionally to the product of their masses and inversely to the square of the distance between their centers of gravity. This Newtonian formula, however, is not more intelligible, even if it is nearer the

truth, than other formulae which we can equally well invent. As we might fancifully imagine the earth to have two moons and Jupiter only eight, so we might fancifully conceive bodies to attract one another proportionally to the sum of their masses and directly as the cube root of the distance between them. We could of course, if we knew enough physics, explain how the Newtonian formula fits in with other laws of physics in consistent fashion, whereas the fancifully conceived formula does not. But these other laws of physics would have to be justified in turn by still others, and so on without end. Hence, again, in regard to law as in regard to fact, the course of nature as a whole may be called contingent. Nature changes, however, as it changes, and that too is an end to discussion.

Now this contingency which determinists grant in two respects is affirmed of existence in wholesale fashion rather than of all events distributively. It is contingency *of* nature, not contingency *in* nature. It is a kind of contingency which indeed philosophers of all schools might well grant, except those rationalists who hanker to deduce existence from first principles. The very concession of contingency in this wholesale fashion, we must confess, adroitly buttresses the notion of inevitability, because it seems broad-mindedly to take account of contingency without limiting necessity. But this procedure is specious. In speaking of contingency wholesale, determinists are but painting a kind of cosmological picture which has all the faults to which in a previous lecture cosmological pictures were shown to be exposed. Contingency is acknowledged of nature collectively, and only necessity is affirmed of nature distributively. Both ought to be affirmed distributively, because, in addition to material cause and formal cause, efficient cause is present in each and every event. And this much, at least,

is certain. In mentioning their version of contingency, determinists are not in any way recognizing the distinctiveness of efficient cause in the pattern of nature's changes. Physics does not deal with efficient cause, because it is concerned with uniformities; history does not deal with efficient cause, because efficiency is in the present exclusively. But we discover efficiency in ourselves and in things about us. That rain falls on loose soil is a contingent fact; that the loose soil is so located that it slides down a precipitous slope is a contingent fact; that the mass of debris dams up a river is a contingent fact. The outcome of action may in all these and all other cases be necessary and describable in terms of laws; but the initiation of each action is contingent. Necessity and contingency are everywhere together in nature, because in the causal pattern of events material cause and formal cause on the one hand, and efficient cause and final cause, on the other hand, are distinguishable factors with that pattern. We say, and we are entitled to say, "If this is done, then such-and-such will ensue." But the *if* of this statement is as metaphysically evident as the *then*. The *if* is as truly a recognition of the contingency of the efficient factor of which the law does not even try to give an account, as the *then* is a recognition of the necessity of the outcome. Just as material cause and formal cause are sources of necessity in nature, so efficient cause—let us leave final cause for later consideration—is an occasion of contingency. Necessity and contingency, so far from being unconnected ideas to be taken, one wholesale and the other retail, are supplementary ideas which belong together in the analysis of every separate event. To identify causality with material cause and formal cause alone, is to give an inadequate interpretation of natural change.

Contingency in nature is of course the natural basis of human freedom. This contingency can by no means be confined to that little area of nature in which man is found. Apart altogether from man and his ways, that is, in nature before any kind of rational agent appeared, and in nature now in those parts of it that lie remote from us and beyond the range of our powers to modify its operations, events are contingent. Even in our lives, in so far as we act impulsively or from habit or from the pressure of social opinion, events are contingent without being also free. Man is an agent many more times than he is a free agent. But were nature not throughout contingent, man would never be free. Man may quite properly be called a special case of nature's ways, but he cannot properly be called an exception to those ways. Freedom would have to be put down as a pathetic illusion, were there not in nature, prior to and apart from instances of moral purpose in man, a constant factor which, seized and utilized by man, is thereby turned into moral purpose. The occasions of contingency in nature are as numerous as the sands of the sea; instances of moral purpose in man are, by comparison, extremely rare. But it is the former which makes the latter possible. Man, equipped with history and physics, exploits nature's pluralism and nature's contingency. He fashions that pluralism into choice and that contingency into freedom. The contingent occasions of nature are not guarantees of their profitable use. But all traits of nature, like all resources in it, become at times in man what they elsewhere are not. Some stones become gems, some noises become music, some mechanisms becomes machines, some occasions, as was said before, become opportunities, some forces become powers, some potentialities become achievements, some values become ideals. So some cases of contingency become instances

of freedom. The techniques of all these transformations are derived from history and physics. Contingency and necessity are alike requisite in nature if the kind of thing we call civilization is to occur—and occur it sometimes does, at least to a degree. Necessity without contingency would be the imprisonment of the human spirit in alien channels from which escape would be impossible. Contingency without necessity would be exposure of every plan and every purpose to a chaotic welter of caprice and probably of disaster. Only because necessity and contingency are correlatives in nature, only because material cause and efficient cause are, though distinguishable, yet inextricably linked in the causal pattern of events, can intelligence appear and flourish, can knowledge yield fruits in practice, can the good be genuinely sought, can a modicum of progress be made.

Were determinism a true theory, the social purport of the development of the sciences would have been quite different from what has actually been the case. Men have more and more discovered, as their knowledge of history has increased, the materials, physical and social, by which they are confronted; they have also more and more discovered, as their knowledge of physics has increased, the consequences which will necessarily ensue from the operation of different types of agency upon these materials. They have learned that they cannot avoid, if they would be reasonably realistic, an objective acknowledgment of both the natural situation and the natural laws by which their lives are in large part conditioned. By both material cause and formal cause, they have hence been rigorously constrained. But material cause and formal cause do not together exhaust the causal pattern of nature. Even when we know much of both history and physics, even, that is,

when we understand what materials exist and constitute the natural situation about us, and also what laws hold true and describe the outcomes which will follow one and/or another type of operation upon those materials —even then, we are often impotent to do other than submit to a course of events we cannot control. We must in such cases submit, because knowledge of both history and physics does not suffice to make us agents of effective action. Within limits, however, knowledge has always been, and now is, a technique of achievement. We can store up water in reservoirs to alleviate drought; we can build houses which will better withstand tremors from shifting layers of subterranean rocks. And the area of nature over which we can exercise control is ever widening. Now were the deterministic theory true, the progress of scientific knowledge would be the disheartening disclosure of a fixed destiny. It would but further and further reveal the inevitability with which the causal pattern of nature was bringing us our measure of weal and woe. Even if the inevitable destiny so revealed had some rosy features, we could anticipate it, not with a satisfaction that we were learning to put our measured knowledge to measured use in the pursuit of chosen ends, but with a resigned submission to our sheer good luck. But empirically, factually, the history of the progress of scientific knowledge has not had this character. Quite the contrary. With growing knowledge of history and physics, human beings have gained ever more significant options within the limits which stern necessities of material fact and natural law still impose.

Recognition of the efficient cause does more than add a factor—and that, a contingent factor—to the deterministic portrayal of the causal pattern of nature. It further-

more removes the dialectical grounds for all three of the curious implications to which, as was pointed out above, the deterministic position seemed to lead. Let us critically reconsider these three implications in turn. In the first place, the efficient cause is *present* action by *present* agents. It is a matter of the *present exclusively*. We know it is present in many a "now" as it occurs; we know it is present because we are aware of it directly in our own exertion of effort and in the dynamic impact of other forces upon us. We have grounds to infer its presence in other "nows" where it is not directly observed. And, what is very important to note, we find it nowhere else than in some "now." When we go to the past, we do not find it. On the morning of July 4, 1776, there were thirteen British colonies; and on the evening of that day, there were, to speak roughly, thirteen independent states. We have good reason to believe that, when July 4, 1776, was a "now," certain men who stood ready, above their signatures, to pledge their lives, their fortunes, and their sacred honor, were acting efficaciously and produced the change in the situation. We infer there was efficacy. We do not find that efficacy now, as we can still find the signatures. We do not find it now, because it is not *now*. A situation, in becoming part of the past, becomes wholly a matter of history and undergoes the consequence thereof. That is, it ceases to contain efficacy and becomes matter for present agents to act efficaciously upon. We tend to dramatize the past and to imagine history as once more occurring as we unfold its story. But dramatic portrayal is not metaphysical analysis. When we put Shakespere on the stage, Brutus does not really stab Caesar. We can say that a situation has lost efficacy because it is past, or we can say that a situation has become past because it has lost efficacy. The two ways

of expressing the point are equivalent in meaning. The present really is, after all, the *locus* of change. The present, then, really is, after all, metaphysically privileged. The present really is central; past and future are, only because they are past and future of the present. When we speak of the past as changing in significance, it is not the past that changes, but the significance of the past—and that change of significance of the past is occurring, not in the past, but now. It is occurring now because, quite genuinely, that past is present in the material upon which present agents are operating. But it is present as material, not as agency. Agencies are only present. If, therefore, in the deterministic scheme, the present is allowed to fade into obscurity, the efficient cause is overlooked, the contingent factor in nature is neglected, and only the material cause and the formal cause, both of them sources of necessity, are left for determinists to speculate about in their abstract universe of discourse.

In the second place, the efficient cause is always some concrete individual. It is this man or that meteor, this bullet or that blast of wind, this spark or that drop of acid. In listing the many agencies that there are, we become acutely aware of nature's pluralism; we are quite unable to lump these many agencies together as one cosmic mass of causality. In taking note of the matter about us, we can always enlarge our view; we can take in more and more of the situation before us, until, seemingly, only the whole of nature would be the theoretical limit of our expanding considerations. No wonder, then, that, when determinists ignore the efficient cause and view change in terms of an unfolding of only the material cause, each total state of the universe seems, theoretically, cause of the next total state. But from the point of view of the

efficient cause, the emphasis has always to be put on the specific efficacy of the specific concrete entities. What the meteor does is not what the drop of acid does. What the doctor, as agent, does to the patient, as material before him, is not what the patient, as agent, does to the doctor, as his material. Interaction is of course extremely complex; and, as was said in an earlier lecture, everything that is agent in one relationship is also material in another relationship. But if the things that play two roles are the same things, the two roles they play are not the same role. And these same things cannot be handled in the same fashion and summed up in the same formula, when interpreted in the light of their two different roles. As so much matter, nature is one vast body of fact, hence one enveloping source of stern necessity. As so much efficacy, nature is many competing, antagonistic, supplementing, cooperating, and mutually destructive agents. To view nature as so much matter is properly to view it collectively, at least in so far as our powers of comprehending its vast extent permits us to assemble it in synthesis before us. To view nature as efficacy requires that it be viewed distributively; for each agency is a distinct individual. Thus, in a sound metaphysics, both the present moment and the concrete individual come into their own.

Then, in the third place, to take adequate account of the efficient cause is to observe that changes in nature are not a succession from past through present to future. Change is recession as truly as it is succession. Change involves a passage from the present into the past and a passage from the present into the future: it involves these two passages as correlative aspects of one integral course of change. It is surely not the past that produces the future.

The present produces both past and future, and produces past and future as empirically identifiable phases of its efficacy. When an agent acts on any material, it at once both pushes what that material was into history and also brings about something new. When a change has occurred and is viewed historically, we may picture it as first one actuality and then another actuality. But in its concrete occurrence, change is transformation. In and through change, something proves to be gone and something else proves to have come about. The past, since it is no longer, does not act. So with the future, since it is not yet. Only the present is active, because only the present is actuality or *enérgeia* or efficacy. Change therefore is not passage from past to future. It is rather, as was said before but may now perhaps be said more meaningfully, passage from potentiality to actuality. What was potential in a material becomes, through the operation of an agent upon that material, an actual state of affairs. Thus the passage from potentiality to actuality does two things simultaneously to any material—it makes what initially was actual in that material a part of the past, and it turns what initially was only potential in that material into an actuality. The past is the present's past and the future is the present's future. The present alone exists; past and future are functions of its causal pattern. The past is now, only in the sense that it is visible in the materials which condition the course of present change and impose necessity and limitations upon the agent which produces that change. The future is now, only in the sense that it is equivocally indicated in the potentialities of the materials to the actualization of some of which change may lead. But these potentialities are plural, and so the future is indeterminate. Through

freedom men may choose, within such stern boundaries as matter imposes, the kind of determination to be given to a course of change. And this consideration raises a new issue, the basis and nature of happiness, with which the next lecture will be concerned.

THE NATURAL BASIS OF HAPPINESS

THE pursuit of happiness is a specifically human concern. Man is not born happy, nor can he have happiness thrust upon him. Happiness is not a native endowment, nor a lucky chance. It is a moral achievement. It is, to wrest a phrase from the Shorter Catechism, the chief end of man. But nature imposes no compulsion upon man to seek it and offers no sanction of its worth. Man must seek it for himself, if he is to possess it, and in its pursuit he needs all the wisdom he can possibly command. To embark upon its quest can hardly be said to be an obligation, but at once entails man in many obligations. To win it is not to rest in ease but to be engaged in joyful activities. The crux of the matter is that man cannot refuse to attempt to gain happiness without implicitly repudiating his own nature. For happiness is his fulfillment; it may be summarily defined as that course of living in which man brings to harmonious and adjusted fruition the various latent powers with which he is naturally endowed.

The pursuit of happiness, if a specifically human concern, yet has its basis in nature. This statement is more than an acknowledgment that nature is the scene of that pursuit. It is more than an admission that the pursuit is constantly conditioned—in its inception, in its uneven

advance, in its precarious maintenance—by external chances and a host of unforeseeable contingencies. It is both of these but more. It is, further, a recognition that the pursuit of happiness is an illustration of one of nature's fundamental traits. Man does not, man indeed could not, impose on nature ends that are not germane to nature's own being and do not grow out of nature's own procedures. Man does not introduce purposefulness into a nature that has no purposiveness; rather his purposefulness is an organization through intelligence of some of the purposiveness that is present everywhere in nature. The pursuit of happiness is accomplished by so arranging certain selective natural ends that these natural ends become conspicuous in their cumulative import. It has been the fashion among many modern metaphysicians, following the example of Descartes, to deny that there are final causes in nature. They have taken what history and physics tell us about nature as implicitly the whole account of what nature is. Yet men have gone right along, serenely indifferent to the logical implications of the Cartesian denial, to exploit the ends to which nature's mechanisms lend themselves. One of the significant consequences of the discovery of mechanisms in nature is the further or correlative discovery of the ends these mechanisms naturally serve. There is sound metaphysical discernment in the words which Shakespere puts into Polixenes's mouth in *A Winter's Tale:* [1]

> Nature is made better by no mean,
> But nature makes that mean: so, over that art
> Which you say adds to nature, is an art
> That nature makes.

[1] Act IV, scene iv, lines 89–92.

The arts of civilized life are not idle fantasies; they are not vain pretenses pathetically to coerce a nature that is devoid of artfulness. They are, rather, systematic, deliberate, and sustained efforts to direct nature's purposiveness towards outcomes which, though without skillful techniques these outcomes would occur infrequently and at random, yet lie potential within nature's resources. If man at times chooses ends and even succeeds in obtaining their realization, one must conclude with dialectical assurance that there naturally are ends to be chosen and possible of execution. Human purposefulness, then, is not a defiant gesture against an alien world. It prospers, partly because men learn how wisely to select among nature's ends and systematically to arrange their ordered occurrence, and partly because nature, prior to and apart from man, is already full of utilities, of eventuations, of ends. Once consciousness appears within nature, purposefulness is under weigh; but the very advent of consciousness, though not, so far as we call tell, a product of intent, is none the less quite clearly an instance of nature's purposiveness. The pursuit of happiness, conducted by men equipped with knowledge of history and of physics, may become the supreme art within the practice of which all other arts gain their proper contributing roles. As, in specifiable circumstances, nature's contingency becomes human freedom, so, when freedom is wisely employed, nature's teleology becomes human happiness.

Since the pursuit of happiness is an exploitation of nature's teleology, ethics or moral philosophy rests upon metaphysical grounds. But to say this is not to call for a treatise on *The Fundamental Principles of a Metaphysics of Ethics*—not, at least, in the Kantian sense of that famous title. Kant, you will recall, formulated in his *Critique of*

Pure Reason the fundamental principles of a metaphysics of nature. He formulated these principles in such a manner that we should, if we accepted them wholeheartedly, have to go on to conclude with him that the occurrence of choice, of freedom, or of the effective pursuit of happiness is incompatible with the course of nature. His genuine piety, to be sure, made him shrink from repudiating what his metaphysics of nature made untenable. And so he set about to formulate an *ad hoc* metaphysics of ethics which demanded of men a type of action which his metaphysics of nature would render impossible. If his metaphysics of nature were true, ethics would be little more than a wish, a forlorn wish, that man had a status which nature denies him; if his metaphysics of ethics were true, his view of nature would be little more than a methodological conceit without genuine ontological validity. Each of his metaphysics wars against the other. No wonder that an ardent follower of Kant reduced the Kantian position to an intricate kind of *Philosophie des als-ob!* And despite the admirable character of the kindly Kant himself, the Kantian influence, in practice, has been as deleterious as, in theory, it has been incoherent. It has led many men to talk the language of high idealism and to enjoy a subjective thrill of exaltation, while at the same time they have acted with harsh brutality and relentless oppression.

But metaphysics need not be Kantian. We need not exhaust our ingenuity in the spurious task of alleging rational grounds for the occurrence of nature. We can start with nature and its causal pattern as being, without our assistance, a going concern, and we can then point to what therein are the grounds of the many consequences that ensue from its existence and its uniform ways of becoming. We can, and we should, base ethics on a natural

foundation as strictly as we so base other enterprises like history and physics. The point may be expressed as follows. Every change in nature, for example, involves, as we have seen, some matter in which transformation occurs. Because of this fact, we can, on the one hand, reach a generalized conception of matter as an ultimate metaphysical concept, and, on the other hand, conclude that the objective being of matter is what warrants us in developing our histories, histories which, however much they reflect the interest and approach of the historian, are genuinely pertinent to nature itself. So with formal cause and the science of physics. So also with efficient cause and the contingency of nature. And so, finally, with final cause and the pursuit of happiness. Finality or teleology is as genuine an aspect of events as matter, form, or agency. Nature is the domain of ends. To exist is to be good for, to point to, possible eventuations. The pursuit of happiness may not be fostered by nature; it may be chosen by man. But if and when chosen by man, it rests upon nature as any selective enterprise presupposes the adequacy or suitability of nature as the ground of its occurrence.

There are two features of nature's teleology which need to be kept clearly in mind for a due understanding of the moral life of man. In the first place, nature is in its teleology, as in other respects, extremely pluralistic. Nature may be, as was just said, the domain of ends. But it is not a kingdom of ends. It has no chief end, presiding over and ordering the multitude of subject ends. Nature collectively has no end at all. Nature distributively has many discrepant and discordant ends. Nature does not even arrange these ends in any hierarchy of value. It may afford man opportunities, but it does not guide him in his choices. That is what makes the pursuit of happiness both humanly

difficult and very problematic in its course. No notion about nature could be a more faulty anthropocentric fantasy than the monistic utterance of Tennyson's oft-quoted lines to the effect that there is

> One far-off divine event
> To which the whole creation moves.

The poets, as Socrates was wont to point out, are a bit mad; they are not authorities in metaphysics. Nature is not teleologically chaste, but teleologically prolific. An oak tree may come in favorable circumstances to exhibit that graceful symmetry of sturdy growth which some are prone to consider the finest realization for *its* kind of being. A boa constrictor may develop power and agility to enable it to strangle even fairly large mammals in its muscular coils. And anyone can go on to list other sorts of culmination that take place here and there within the processes of nature. These culminations, however, take place only here and there, not everywhere, within nature. Nature is the scene of defeats and perversions too. Oak trees are often torn and lacerated by high winds, and boa constrictors become infected with harmful parasites and suffer mutilations at the hands of their enemies. The ruin of the boa constrictor may promote the well-being of the parasites, and the stunted oak may appeal to some painter as aesthetically more winsome than the sturdy oak. The painter may of course be right; but, if he be so, it is because he is viewing the oak as an instrumentality in his own career rather than as a natural object with its own form of fulfillment. Nature is a lush welter of teleological profusion. Man faces the moral task of organizing as best he can what nature offers with total disregard of centrality.

Then, in the second place, nature's teleology is instru-

mental, not intrinsic. Nature produces man and oaks and boa constrictors; it brings about health and disease, life and death. It sides with no one of the ends it furthers. Man is indeed natural, but nature is not human. Nature basks in purposiveness, but it puts no seal of approval on any end it promotes. Man, however, is a being who, if he chooses to embark on the pursuit of happiness, is bound to put a seal of approval on some of nature's ends and to put a stigma of disapproval on others. Man, in doing this, is frankly, perhaps rankly, humanistic. But, after all, man has the right to be humanistic; he must evaluate nature's ends from his own point of view. That is, he must do so, once he embarks upon the pursuit of happiness. Man's end is, not to cooperate with nature—for indeed cooperation is impossible where all plan is absent—but to create within a part of nature his own best economy. Where nature is indiscriminate, man is constrained in his own interests to be selective. When man once adopts happiness as his program, nature's instrumentalities immediately acquire moral status; nature's ends become of intrinsic value, become, some of them, his intrinsic goods, others of them, his intrinsic evils, still others, perhaps, morally indifferent. We tend to speak of nature in moral terms, we venture to refer to nature as the domain of ends, because we are incorrigibly human. There is nothing in the rest of nature that forbids a humanistic approach to nature; there is much in man that requires that approach. To embark upon the quest of happiness, it was acknowledged above, can hardly be said to be an obligation; it is rather a natural privilege. Nature, as evidence amply indicates, does not exist that man may be happy. But man is surely entitled to seek his own fulfillment. His history is the record of those phases of matter which are relevant to his being; his physics is the formulation of

those phases of form that are relevant; freedom is the specific fashion in which in him nature's efficiency appears. So happiness is the inevitable goal of aspiration when nature's teleology is interpreted humanistically. Surely we can find no fault if ethics has the humanistic character which history and physics also have. No one would speak, except in rapturous metaphor, of a happy oak tree or a happy boa constrictor. Only when man is present in nature does the pursuit of happiness begin. Only when, over some little area, the pluralism of nature's teleology is controlled in accord with man's need and by means of man's foresight, does the pursuit of happiness prosper.

The point here at stake is so fundamental that care must be taken to express it with precision. There is, we have granted, no discrimination in nature's purposiveness. In order that man may make discrimination, he needs a basis of judgment. But he is not, in selecting this basis, reduced to the extremity of arbitrary insistence or willful caprice. For nature, even though itself making no discrimination, yet provides man with a basis for such. It has produced man as an animal with his typical actuality and his vast, if inchoate, potentialities. It has furnished him, in what he is and may become, with what, to it, is but one of thousands of possible bases of judgment, but, to him, is the naturally human or the humanly natural basis. Human nature is not a fixed thing; it is not precise or simple in its possible lines of development, nor is it pointed towards a single culmination. But, with all its implicit confusions—and to the problem that this confusion generates, we shall have to return later—it is at least a point of departure and a basis for judgment. It is, so to speak, a center for man's system of ethical coordinates. Nature does not compel him to accept this center. But to adopt

this center, though optional, is not arbitrary. A man can become a good man only because he is first of all a man. In our astronomy the adoption of one center rather than another is arbitrary; we can be geocentric if we will, though we have come to find that a heliocentric system is more convenient. But in the moral life we are seeking our good, not nature's. We are not trying to add to the confusions of nature's indiscriminately luxurious purposiveness, but to fashion, out of this amoral purposiveness, a significantly human or moral program of achievement. And for this program a natural center is provided in our own being. If in our evaluations of nature's purposiveness we adopt some other center of reference or drift along without any expressly maintained center, we shall never come to see life steadily and see it whole. Only when man accepts his own being as his center of interest, does he become a moral being and have intrinsic goods. We ought eagerly to acknowledge with Santayana, that "there can be no goods antecedent to the natures they benefit, no ideals prior to the wills they define." [2] Man has a nature to start with; and that is enough to enable him to weigh the human import of nature's many ends, to determine what are his goods, and progressively to define his proper ideals. His nature can be truncated and perverted; but it can also be developed and brought to rich fulfillment. There is much about the conditions of human happiness and about the detailed contents of a happy human life which we do not know. But so is there much history, and there is much physics, that we do not know. The fact remains that there are many well-accredited conclusions which we can reach in history, in physics, and in ethics. And if these conclusions are gained by interpreting the matter, the form, and the

[2] *Reason in Religion,* p. 83.

value of nature from the human point of view, they are not less objective than if some other point of view were adopted. To disparage knowledge because it is from the human point of view is to suppose, implicitly if not explicitly, that knowledge would be better if, by some illusion, it could be made wholly pointless.

Consider, for example, a concrete case of the contention of the preceding paragraphs. A very elementary and simple concrete case will best serve our purpose at this preliminary stage of discussion. We all know that it is good for man to see. Blindness is a defect. We recoil with horror from deliberate blinding of the eyes. This horror is not just physical disgust or aesthetic distaste; it is moral revulsion. Sophocles would not degrade his tragedy by putting on the stage the act by which Oedipus tore out his own eyes. We may greatly admire the superb moral achievement of a person who, blinded at birth or through accident, rises triumphantly over the consequent limitations of his range of living. We may also commend the resolution of another person, who, adhering with deliberate choice to a great undertaking which eventually entails the loss of his vision, makes the sacrifice without flinching. But, as we all remain convinced, it is better for man to see than to be blind. It is better because vision is a normal means of fulfillment of man's nature. Not only is vision an instrumentality towards other ends, enabling man better to earn his livelihood, to adjust himself to changing environments, and the like; but also it is itself a human function without participation in which an intrinsic part of man's possible excellence is taken from him. Nature contains certain conditions that have as their end the production of blindness and other conditions that have as their end the production of good vision. And this profuse teleology of nature pro-

vides no norm whereby anyone could say that for nature either alternative is morally preferable. But when within nature a being like man arises whose welfare requires that one alternative be avoided and the other be promoted, the former becomes at once a genuine evil and the latter a genuine good. Nature's ends gain morally intrinsic status as soon as a point of view is established for judgment. Perhaps it would be better to say that nature's ends gain morally intrinsic status as soon as a point of view is chosen. For there are thousands of points of view possible where nature gives rise to thousands of beings with their thousands of different potential perfections. Man's proper choice among these thousands of possible points of view, however, is hardly debatable. It is naturally that point of view which is his by virtue of his being man. The pursuit of happiness has its basis in nature; but it gains its principle of selectiveness, its due direction of movement, its ideal goal, not from nature's copious purposiveness, but from man's recognition that his own being has its correlative fulfillment.

The position here defended will doubtless be called relativism. In a sense, it is that. But if so, the position of Plato and Aristotle would have to be called relativistic too; for in Plato and Aristotle is the *locus classicus* for the view here taken. Relativism is a term that has stood for a great variety of discordant theories. Humanism, if a relativism, is a very particular kind of relativism. It can hardly be exposed as error because a hasty critic pins a label on it and then misunderstands it as akin to those other relativisms which Plato and Aristotle did so much resolutely to refute. Humanism is relativistic in this specific sense, namely, in that it regards the nature of man as that to which human good is relative. But the nature of man,

both in its native actuality and in its inherent potentialities, is an objective matter to be inquired into with the same dispassionate integrity of judgment that would be appropriate in determining any point in history or in physics. Distance is a relative matter too; the distance to Moscow is relative to whether one begins measurement at New York or at Paris. Time is a relative matter too; the duration of this lecture is 1 or 60 relatively to whether one takes an hour or a minute as the standard of measurement. None of these things, neither human good nor distance nor time, is relative to how the investigator happens to feel, or to where one happens to stand relatively to a development of a changing culture, or to what one desires. Judgments of relation can often be tested and proved right or wrong. What we chance to know about history or physics or ethics may be relative to our human status in nature, as our possession of knowledge of how to treat a disease is relative to the current state of scientific techniques. But truth is not in any of these cases relative to a current state of scientific techniques. Truth of any judgment is relative to the objective nature of the subject-matter with which the judgment is concerned. Truth of ethical evaluations, then, is relative to the nature of man and the conditions by which man may successfully engage in the pursuit of happiness. To take a human point of view is not to be biased nor to be indulging in a passing whim. Not, at least, for man, though we have no right to expect other animals, or even angels, if there be such, to take a human point of view. Doubtless many of our ethical evaluations are precarious; their truth is uncertain; their verification is incomplete; their full import is obscure. Humanists have often erred in the serene confidence with which they have supposed that a particular pattern of excellence, a pattern

of excellence they have cultivated and sought to foster, is the exact and neat solution of life's moral confusions. Plato portrayed in some detail a picture of the philosopher-king; Aristotle drew the outlines of the high-minded man; Castiglione sketched persuasively his courtier; Renaissance authors delighted in elaborating formulae for the gentleman. All of these expositions of the precise nature of human perfection, noble in intent and doubtless germane to concrete problems of the times of their expression, are premature in their suggestions of finality. We may talk with Fichte of the vocation of the scholar, with Newman of the academic leader, with Emerson of the philosopher, the poet, and the man of the world. All these thinkers may instruct us; none of them sounds the depths of man's moral possibilities. Ethics is no more a finished body of knowledge than is history or physics. But in ethics, as in history and in physics, we are seeking to establish truth, not just to air our opinions. And unless we realize what that only subject-matter is, relatively to which our ethical judgments can be true, our chances of ever gaining ethical knowledge are negligible. The kind of relativity which humanism sponsors, we may fairly say in technical language borrowed from the vocabulary of mathematics, is the necessary, if not the sufficient, condition for ethical objectivity. It is the necessary condition for objectivity; for it alone gives the precise *basis* upon which the pursuit of happiness rests. It is not the sufficient condition, however. For in order to understand, at least, in order fully to understand, the pursuit of happiness we need more than a basis for investigation. We need also vast patience, cumulative wisdom such as only centuries of searching may provide, and considerable experimental living. All of these conditions have been partly met, and some ethical knowledge is

ours. And we ought not, out of dissatisfaction with the partial degree of our knowledge, to turn either to some such short cut as intuition or to disillusionment and despair.

Let us contrast humanism with what has normally been called relativism. The term relativism ordinarily stands for the supposition, widely entertained through history and frequently voiced in our own day, that ethical judgments really have no objective meaning but express a merely subjective taste in whoever makes the judgments. According to this supposition, men's moral appraisals, though often formulated in propositions such as "This is good" and "That is bad," rest ultimately on personal feelings, or, since personal feelings are normally functions of time and place and circumstance, on social trends of custom and public opinion. The progenitors of this school of thought are of course the ancient sophists. Protagoras put the position mythically when he said, at least in Plato's portrayal of him, that Zeus sent Hermes to "impart justice and reverence to men." [3] Less mythically put, the point of Protagoras seems to have been that the moral principles by which a man guides his choices and judges his own or others' conduct are, in the last analysis, generalizations from the way in which he, or some group of persons to whose ways he has come to conform, happens to feel. And of course feeling is both subjective and transitory. It varies from person to person, and, in any one person, from occasion to occasion. Nothing is more in flux than feeling; and though Protagoras and others of the sophists would qualify passing whims and bizarre caprice by stressing the conventions standard in a man's city at the time that man lived therein, yet conventions, too, change with the whirling

[3] Plato, *Protagoras*, 322 c.

forces of political and commercial and cultural upheavals. Morals thus rest, as the sophists were prone to say, not upon what man is, but upon what a man's feelings or his city's conventions momentarily are, that is, not upon *phusis* but upon *nomos*. The sophists of course recognized that prudence is requisite to enable a man to find the shrewdest ways and means of gratifying his desires or of winning acclaim in his city. But such prudence, then, deals with means, leaving taste or convention to determine ends. Prudence in the sophists is indeed far different than in Plato and Aristotle. Aristotle, for instance, said that prudence is deliberation upon what is good "not in a particular sense, but generally upon the means of living well." [4] The contrast is important. For Plato and Aristotle, reason has as one of its functions the elucidation of ends which would genuinely be good for man. For the sophists, however, a man's tastes and a city's conventions are not themselves determinable by reason or, even theoretically, subject to criticism by reason. Not, at least, in final analysis. A particular taste or feeling may indeed be criticized for its consistency with other tastes, so that a person will not be at strife within himself. But some personal attitude, some dominant taste or group of compatible tastes, some inner preference, uncriticized and uncriticizable, here lies at the root of all criticism.

The study of sociology during the last century has promoted a considerable revival of this sophistic position in our own day. Especially has this been the case when this study has utilized the idea of evolution. For then changes in morals have seemed to follow a kind of pattern by which individuals and their tastes are molded and to which they must make their most profitable adjustment. Hobhouse

[4] *Ethics*, Book VI, 1140 a 28.

and Westermarck and a host of subsequent writers have sketched the changes in moral attitudes through the course of social history. This kind of investigation, empirical in procedure, instructive in content, legitimate in its aim to give better understanding of the dynamics of cultural changes, has been supposed by certain writers on ethics to indicate the conclusion that morals, like style in dress or protocol at state dinners, are a matter of current fashion. No moral judgment, then, can be regarded as objectively true; all moral judgments are functions of passing phases of human development. Taste is not constant among men; hence morals are not constant either. Normally, people of the same time and place will prove to be in working agreement with one another, so that a degree of effective social action may ensue. But if a person happens to have a taste that is altogether out of harmony with the trend of his society, he cannot be condemned as really wrong. He may be deemed an eccentric; he may be shown to be indiscreet; he may be denounced as outrageous. He may be coerced and made unwillingly to conform; or he may be eliminated and deprived of any opportunity to disturb society. But the opposition between a social group and a moral rebel is, in the end, a matter, not of right and wrong, but of *force majeure*. Morals are relative, relative to individual preferences in so far as these preferences can be tolerated within the social structure to which individuals happen to belong, relative to social custom when individual aberrations become too shocking to the feelings of cohesive majorities or too dangerous to the security of dominant groups.

The recrudescence of irrationalism in moral reflections in contemporary society springs largely from the prevalence of misunderstanding and misuse of sociological information. In literature it appears in the existentialism, accord-

ing to which a man must begin by taking some unquestioned commitment and must then determine for himself, in the light of this commitment, what for him "exists." In philosophy it appears in that extreme logical positivism, according to which all moral judgments are virtually like such ejaculations as "Aha!" or "Ouch!" But more generally it appears in less striking but perhaps more insidious fashion in the placid and indulgent attitude of the person who, finding himself in disagreement with another person on a judgment of value, thinks he says the last word when he remarks with a smile and a shrug of the shoulders, "Well, after all, it's a matter of opinion, isn't it?" Such a person cannot be budged from his tolerant but intolerable subjectivism by the rejoinder that the weight of oxygen and the date of the battle of Marathon are matters of opinion too. He does not distinguish between holding an opinion and holding a competent opinion; that is, between holding an opinion because one happens to feel in a certain fashion and holding an opinion because one can adduce objective considerations, not perhaps sufficient for certainty but adequate for some degree of reasonable assurance, to support the opinion. He may be quite ready to make this distinction in what he considers "factual judgments." But he declines to make it in "value judgments." He declines to make it in the case of value judgments because in such matters all he means by opinion is taste. And *de gustibus non disputandum est.*

Akin to the sophistic-sociological attitude, though presented with able philosophical sophistication, is the position which Professor George H. Sabine advances in his Howison Lecture on *Social Studies and Objectivity.* Professor Sabine points out quite rightly that historians and economists and writers on government make many value

judgments, and that these value judgments are an inevitable and important part of their scholarly enterprises. The factual judgments in their studies can, with sufficient sound academic training, be objectively sustained. But the value judgments, in Professor Sabine's view, lack possibility of verification. Judgments concerning instrumental values, he grants, are verifiable; for a scholar can, to a satisfactory degree, determine the suitability of chosen means to specified ends. But judgments concerning intrinsic values, he maintains, are not verifiable and therefore have a wholly different status in even the best writings in the field of social studies. He concludes his lecture with a paragraph in which appear the following words: [5]

"Such studies can not avoid including factors of valuation which reflect the interests, the hopes and fears, the moral aspirations of the men who, as historians, or economists, or political scientists, create them. . . . These elements of interest and aspiration are not objective in the sense in which the occurrence of a fact is objective. Where reasons can be given either for or against them, those reasons themselves must contain judgments of value, and in the last resort some values must simply be postulated as intrinsic. Such postulates, so far as their logical nature is concerned, are the result of choice, which is extralogical. . . . Logically a judgment of value is *sui generis;* and if the value is intrinsic the judgment has simply to be taken or rejected as any other postulate is taken or rejected."

But, after all, a judgment of value is still a judgment, and every judgment is either true or false. The term postulate is of course dignified. But are history and

[5] *University of California Publications in Philosophy,* XVI, No. 6 (1941), 141–142. Reprinted by permission of the publisher.

economics, even in their ethical aspects, postulational systems? If so, there is something arbitrary about them. They would then be ways in which, though he can specify no warrant for so doing, the historian or economist happens to view his subject-matter. And he would be viewing his subject-matter in these ways, not because he can point or even is trying to point to anything to substantiate his judgments—for then verification or at least some degree of objective corroboration would be at hand—but because —well, because, perhaps, Zeus has implanted certain moral notions in him. Or, if we are to abandon the metaphors of outworn mythology, we must say that he is choosing so to view it because he feels as he feels. Now we ought all to be ready to grant, in justice to Professor Sabine's thesis, that our most thoughtful judgments concerning the worth of democracy or a plan for world government or schemes for abolition of war or for just distribution of the products and profits of industry—that our most thoughtful judgments on these great human problems are as yet far from being verified. The value judgments of historians and economists are therefore hypothetical; they refer for justification to the present and the future. But they really mean something; they are not arbitrary postulates for organization of historical and economical materials for the sake of the mere neatness of such organization. The problems in connection with which these hypotheses are offered are human problems. These problems therefore do not force us to assume postulationally an arbitrary center in nature, where indeed all choice of a center is irretrievably indeterminate and postulates lack all justification save convention and convenience. We have human nature given us; and we have its fulfillment to consider as implicitly the objective reference for our value judgments. Our value

judgments in social studies are vastly more difficult to verify than conjectures about the marriage customs of primitive man or about the origin of species. They are estimates, prophetically laid down in advance of empirical justification, but provisionally entertained as the basis for investigation, investigation which may yield more evidence as human living creatures continue to live and to test the various value judgments competing writers suggest. Professor Sabine is too quickly discouraged; he seems to regard value judgments as postulates because their evidence is not already tucked away in the material which suggests those judgments. But the evidence for a value judgment on our economic system is not already as complete as is the evidence for a description of, for instance, the methods of production used by General Motors in 1948. Until historians and economists understand that what Professor Sabine calls postulates are estimates of means to advance human fulfillment and are therefore programs for further investigation, value judgments in their fields can be only psychological preferences which, varying from person to person and from time to time, but issue in ever-increasing confusion, confusion in both ethical theory and moral practice alike.

If one rejects the inherently arbitrary subjectivism of the sophistic position, and recognizes, in opposition thereto, that the nature of man provides a basis for evaluations of human goods, one may yet often be deeply involved in many moral perplexities. To point to the natural basis of happiness is one thing; to discover the exact content of happiness is quite another. One can easily say that the good life is the fulfillment of the best potentialities of the natural basis; but one cannot deduce from an abstract formula the precise specification of what that fulfillment concretely is.

The nature of man, we must in fairness acknowledge, is equivocal in its moral purport. The nature of man is far from simple. It makes many lines of human development possible. It makes many lines of even wholesome human development possible. It indicates no one line of fine human development of which one can readily and confidently say, "This is surely the best life for man to live." We have to make our way towards human happiness experimentally. We cannot dispense with the instruction, accumulated through the ages by thoughtful men, and embodied in the teachings of Greek sages, Old Testament prophets, New Testament evangelists, and the saints, religious and secular, across the centuries. We human beings have sufficient moral experience, personal and vicarious, to enable us to generalize about some goods we ought to possess and some traits of character we ought to exhibit. We know that pride goeth before a fall, that honesty is the best policy, that blessed are the pure in heart, that woe comes to him who sells the righteous for silver and the poor for a pair of shoes. But none the less, we have, for many pressing problems of our personal living and our social procedures, no assured answers. What our familiar maxims exactly mean in action, we have yet largely to work out amidst the clash of contending social forces.

Systems of ethics have done far less than they might have done to assist men in approaching their moral problems. The failure of these systems is due to a misdirection of their efforts. They have, too often, tried to provide a general means of solving a host of moral problems. It is towards this end that they have sought to formulate principles which then, so the supposition has been, can be neatly applied to any and every case. They conceive the function of ethics to be akin to the blueprints which an architect

gives to a contractor to execute. The hedonisms of history, from Epicurus to Bentham, for example, have pictured a scheme into which supposedly men ought to fit the pattern of their lives, or have presented a calculus by which ethical values allegedly can be reduced to numbers and added and subtracted by elementary mathematics. What an ethics can more profitably do is, not to attempt to solve moral problems, but to describe the nature of a moral situation. All solutions must occur in practice; but general description would promote understanding of various types of factors with which in practice one must deal. This description would begin with an explanation of our uncertainty concerning what concretely constitutes in changing circumstances the fulfillment of human nature, would proceed to point out the fashion in which old maxims, previous experience, and hope for new goods could be brought tentatively to bear upon an analysis of the situation, would emphasize the pluralism of diverse goods to be taken into account and, hence, the need for lingering reconsideration of the outcome of old solutions, and would end, as it began, by acknowledging the uncertainty or hypothetical status, in many cases, of even the best-informed judgments.

Many men, however, are unwilling to recognize that the pursuit of happiness is an adventure to which no solution can be given abstractly or in advance, and to which only provisional answers can be given in its onward course. That is why some men cry for an other-than-natural assurance, for a more-than-human infallibility. That is why some men have throughout the ages and in our own day turned from brave investigation to refuge in what they regard as authoritarian finality. That is why some men crave ethical absolutism. There are many forms of ethical absolutism, but the most common absolutism is that which

is proclaimed in the name of religion. It is normally the theologian turned moral philosopher who dares to speak of "mere morality" and, out of the mistaken notion that all relativism is of the sophistic type, appeals for ethical criteria beyond the range of strictly human affairs. Clothed in the language of religion, absolutism has an insidious influence. Advocates of religious absolutism normally begin their case by dispraising the nature of man as inherently base and unworthy. They go far beyond a condemnation of vices which recurrently spring from distortions and perversions of human nature. They are prone to excoriate human nature as such. They excoriate human nature as such, because they can then, by contrast, the more commend some other-than-human seat of holiness and perfection. No suggestion is here intended to the effect that religion is necessarily anti-humanistic in its ethical principles. Judaism has for thirty centuries been dominantly, if not exclusively, humanistic, and some forms of Christianity have been so likewise. St. Augustine was profoundly touched by the ideas of Plato, and St. Thomas by ideas of both Plato and Aristotle. The two great sources of ethical humanism in our western culture have been Judaism, particularly in its prophetic form from Amos through Jesus, and Greek philosophy in its culmination in Plato and Aristotle; and Christianity has remained relatively sound when it has had sensitive dependence on these sources. But unfortunately, some quite influential forms of Christianity have been radically anti-humanistic; and even its more humanistic forms, like Augustinianism and Thomism, have had overtones, perhaps we should say they have had discordant notes, from anti-humanistic sources. All men, St. Paul said, are "by nature the children of wrath." [6]

[6] Epistle to the Ephesians, 2:3.

Speaking in the first person singular but obviously taking himself as a typical specimen of mankind, he exclaimed: "We know that the law is spiritual; but I am carnal, sold under sin." [7] Matthew Arnold, in his great book *St. Paul and Protestantism,* would extenuate the great apostle to the gentiles from the anti-humanistic implications others have derived from his fiery gospel. But one can accept Arnold's extenuation of St. Paul, only by fastening the more unremittingly upon certain forms of Pauline Christianity, particularly upon certain forms of orthodox Protestantism, the dangerous moral arbitrariness which ensues from a literal interpretation of his glowing phrases. Calvin used St. Paul in order uncompromisingly to condemn the natural man. He found in human nature no basis upon which to build a fine moral superstructure. Man, he taught, can become morally worthy only by repressing his own nature and obeying the will of Almighty God. We ought, he wrote, "to place no dependence on our own knowledge, but merely to follow the guidance of the Lord." [8] Calvin thus sponsored in extreme form what one may fairly call a fiat morality. We would, he threatened, be "exceedingly presumptuous" even "to inquire into the causes of the divine will." [9] We should conform to the will of God, not because that will is itself reasonable, but because it is all-powerful.

The history of Protestantism since Calvin, emphatic in its support of rights and privileges for the individual man, has had no constructive unity in regard to the ways in which the individual may best use his hard-won freedom.

[7] Epistle to the Romans, 7:14.

[8] Calvin, *Institutes of the Christian Religion,* Book III, Chapter 7, Section 1.

[9] *Idem,* Book III, Chapter 23, Section 2.

Cut loose by abrupt revolt, not merely from Catholic practices, but also from the humanistic sources of our culture, it presents a record of moral confusion. Great teachers it has produced, but they have been sporadic voices. Early liberals among Protestants, like Matthew Arnold in England and Emerson in the United States, have sought to regain contact with the traditions of moral wisdom which lie behind the whole of Christianity. Later liberals, however, were diverted from fulfillment of the enterprise thus begun. They were driven by exigencies of their times to exhaust their labors in defending sound canons of literary criticism of the Bible and sound canons of historical criticism of early church history. They have not reformulated, against Calvinism, a competent theory of the basis and development and culmination of the moral life and the quest for happiness. The result has been that Calvinistic principles have cropped out again and again in the ethics of Protestantism, and is reappearing, in perhaps more sophisticated manner but with equally anti-humanistic insistence, in the neo-orthodox theologies of our own day. "The organizing center of life and history," a recent apologist for Protestant orthodoxy has written, "must transcend life and history, since everything which appears in time and history is too partial and incomplete to be its center." [10] Here again is absolutism. Here again is an effort to find a sanction for morality, not in an examination of what man potentially is and may therefore ideally become, but by pointing to something that is not man. This is not, to be sure, the crude authoritarianism which thinks of the relation between God and man as that between potentate and subject, or which points to some historically defined code or institution or literature as a final

[10] Reinhold Niebuhr, *An Interpretation of Christian Ethics*, p. 35.

solution for ethical theory. It uses a more winsome and ethereal vocabulary. But what is a transcendent center for life and history? It is certainly not a system of values which emerges from a serious study of the potentialities of human nature. It is certainly not an ideal defined in terms of the latent but unrealized perfection of the temporal being man. For man with his ideal fulfillment is not a timeless center for anything: he is a center, within time and change, of values which, not particularly favored by nature, are yet significant for man. This new etherealized form of absolutism, as truly as the uncompromising fiat morality of Calvin, seeks a standard for man in something that is not human.

Absolutism, whether Calvinistic or neo-orthodox, is subject to many criticisms. Ontological questions, however important, may be waived here. But two ethical inadequacies demand notice. In the first place, there is the problem of moral knowledge. If we granted a transcendent center, how could we possibly know its purport? We surely cannot investigate it empirically. Shall we rely on innate ideas? or mystic insight? or some stirring within us? To do any of these things is virtually to return to subjectivism, to a subjectivism as unregulated and unregulatable as sophistic relativism. Here then we have another instance of the meeting of extremes in contemporary philosophy. The absolutist does no more, he *can* do no more, than to attribute his own thoughtful moral decisions to this transcendent center. Why not then say frankly that the absolutist refers, in his moral pronouncements, not to God, but to his own best judgments? In failing to recognize his pronouncements for what actually they are, he may but attach to his judgments (which, however conscientious, are but fallible) a dogmatic assurance which will obstruct, not

facilitate, a growth towards still better future understanding of human wisdom. In the second place, there is the problem of the relation of moral values to religious faith. Any authority to which an absolutist appeals, any alleged "organizing center of life and history," must itself be morally validated. It cannot be the source of moral sanctions because it must be judged by a reliable moral standard before it can be trusted. No religious faith can claim to be the ground of moral values without at once becoming an anti-moral force. This is not to say that morality and religion are necessarily hostile. They become hostile only when religion aspires to usurp a role for which it is not fitted. If a religious man has faith in some divine reality, some god, some transcendent center, he will wish to reverence and worship it. But he must first find it worthy; and he can find it worthy only by applying to it a standard other than what he is thereby measuring. What he worships must be found good; it cannot be the criterion from which human value is deduced or derived. Man must indeed take account of whatever he finds in nature about him. He is morally bound to show mercifulness to the lesser animals, even to proceed with conserving prudence in his use of inanimate natural resources. So he ought to take account of the gods, if he find such. But he should take account of lesser animals, of mineral resources, and of the gods, not because they impose moral standards on him, but because he judges them in the light of standards which are autonomously valid for him and require on his part certain types of relationships to them. The moral life may eventuate in religion, but it rests on the nature of man. Man is, ethically, his own proper center; he cannot be moral unless he be autonomous. If a divine being sought to impose on man, or if a transcendent center implied for man, a course

of conduct in which man did not find what is genuinely in accord with his human welfare, that divine being or transcendent center would be an anti-ethical factor against which man ought to contend: it would be, just because it was not human, ethically inhuman.

Time does not here permit an examination of the full or developed *content* of happiness. We are here concerned only with its *basis*. But some preliminary phases of the content of happiness fall within our present theme. We need to note that, because the basis of happiness is the nature of man, the moral life rests on a material and animal foundation. Moralists who speak slurringly of matter and of animality may seem lofty in their aspirations. But they have always been unconvincing in theory and misleading in practice. Man is indeed an aspiring animal; he cannot achieve his fulfillment by confining his attention to material considerations. But no idealism is sound that is framed in forgetfulness of the material organism which is the seat of the most high-flung aspirations. Man does not live by bread alone; but, as long as he is man at all, he needs bread. He may, in a proper sense of the metaphorical language of the New Testament, need to lay up treasures in heaven; but he certainly needs also to accumulate many treasures on earth. Moth and rust may corrupt these earthly treasures; but nature, cultivated by men with sufficient knowledge of history and physics, will yield further material goods to replace those that rust away. Scorn of matter is a mark of arrogance of spirit. People of healthy spirituality never lose capacity for enjoyment of material goods. Matthew Arnold makes his aged and world-weary Empedocles look back with nostalgic longing to the more balanced course of his earlier life.[11]

[11] "Empedocles on Etna," in *Poems*, 1881, II, 125–126.

The smallest thing could give us pleasure then—
The sports of country-people,
A flute-note from the woods,
Sunset over the sea;
Seed-time and harvest,
The reapers in the corn,
The vinedresser in his vineyard,
The village-girl at her wheel.

Preliminary appreciation of the material is requisite as a ground for such further developments of moral wisdom as may, only then, safely ensue. To be spiritual, if one uses at all that much-abused word, is to arrange material goods in a program of action that looks forward to achievement, through them, of a fuller and more untrammeled exercise of human powers. The long-standing prejudice against matter springs from such traditions as neo-Platonism and possibly Pauline dualism, not from genuinely humanistic sources. A good dinner may be the occasion of profitable conversation and of the expression of refined sentiments; but the food—let us be really honest—the food is still something to enjoy. In a world which today has dire and desperate need for material goods, we should realize that only after the possession of these material goods can we expect other goods, goods such as we sum up by speaking of human brotherhood and peace, slowly and consequently to emerge.

The late Carl L. Becker had fine moral discernment in his famous essay on Kansas. Listen to his words.[12]

"If Kansas idealism is colored by the humanitarian liberalism of the first half of the last century, it has never-

[12] *Everyman His Own Historian*, pp. 17–19. Reprinted by permission of Appleton-Century-Crofts, Inc.

theless been but slightly influenced by the vague, emotional, Jean Paul romanticism of that time. Of all despondent and mystic elements, the Kansas spirit is singularly free. There are few Byrons in Kansas, and no Don Juans. There is plenty of light there, but little of the 'light that never was on land or sea.' Kansas idealism is not a force that expends itself in academic contemplation of the unattainable. It is an idealism that is immensely concrete and practical, requiring always some definite object upon which to expend itself. . . . Whether it be religion or paving, education or the disposal of garbage that occupied for the moment the focus of attention, the same stirring activity, the same zeal and emotional glow are enlisted; all alike are legitimate objects of conquest, to be measured in terms of their visual and transferable assets, and won by concerted and organized attack. . . . Perhaps there are people who would find the juxtaposition of culture and sewers somewhat bizarre. But to us in Kansas it does not seem so. Culture and sewers are admittedly good things to possess. Well, then, let us pursue them actively and with absolute conviction. Thus may an idealized sewer become an object worthy to stir the moral depths of any right-minded community."

If this be Kansas, we may justly regret that it is only one of our forty-eight states! Far more wholesome is the attitude here shown than the spurious spirituality of a person who thinks he achieves moral superiority through dispraise of man's animal interests and material possessions. Spirit is incarnate in matter; its finer flowerings blossom upon material stalks that are rooted in the soil.

Recognition that the nature of man is the source of ethical values has another consequence worth noting. Man is naturally an animal. And to be an animal is to be born,

to grow, to mature, to become old, to die. Man thus has as his natural destiny a certain cycle of ages and conditions of existence. To aspire for an end that lies apart from the natural possibilities of this cycle is to put fancy in place of reasonable judgment. Man is by nature mortal. To neglect his natural limitations, his inevitable mortality, is to make morals dangerously visionary. To seek to be other than a human animal can be, is, for man, to be already on the threshold of immorality. It is to ignore the possible, from which so many values may be wrung, and to waste time, precious time, in idle fantasy. Nor can we properly say that any one age of life is the culmination for the sake of which the others ought to be treated as means. One human being may find youth happy and old age miserable; another may find the reverse. But accidents of particular cases cannot be turned into moral distinctions. Plato in the *Republic* let Cephalus exult in having at last reached an age when the appetites of youth had been outgrown,[13] and Browning stridently cried out: [14]

> Grow old along with me!
> The best is yet to be,
> The last of life, for which the first was made.

These effusions are unconvincing, not simply to young men and women, but to older people as well, at least to well-balanced older people. The correct retort, however, is not that found in Shakespere's words: "Age, I do abhor thee; youth, I do adore thee." [15] The correct retort is rather that the good life for men is the well-fashioned whole, in which each period, enriched with pleasures, duties, privi-

[13] Plato, *Republic*, 329 c.
[14] Robert Browning, "Rabbi Ben Ezra," opening lines.
[15] *The Passionate Pilgrim*, xii.

leges, and activities suited to its functions, fits graciously into the larger pattern of the entire span of years. Nature imposes limits on human existence; man can within those limits achieve harmony and order.

One could proceed to mention some of the many nonmaterial human goods which a happy life might well contain. Among these goods would be such significant interhuman relationships as marriage, parenthood, friendship, in which persons, separate in their animal individuality, may find notable enlargement of interest through shared joys. Among them too would be the dignity and elevation which come through membership in, and participation in activities of, the great institutions—home and school and state—whereby men rationally transmit and effectively possess a growing heritage of purposes and ideals. Among them, still further, would be sensitivity to beauties won through the liberal arts and enlightenment fostered by the liberal sciences. Among them, most certainly, would be traits of personal character, above all, poise, that is, a blend of emotional balance and intellectual justness, but also serenity amidst the turbulent strife of men and the threatening unconcern of nature, and, with serenity, alert eagerness for achievement and *joie de vivre,* also that integrity of personal attitude which, beginning in mere intellectual honesty, comes then to embrace loyalty to ideals and sympathetic understanding of others' deviations from principle. Discussion of these and other goods, however, lies beyond the scope of this lecture. Our theme here has been the natural basis of happiness. Pursuant to this theme, we can indicate that the pursuit of happiness proceeds from this natural basis, but we cannot go on to examine the full content of a happy life. The pursuit of happiness, like the journey of John Bunyan's Christian from "the wilderness of this

world" to "the gates of heaven," is beset with pitfalls which make progress difficult and cumulative accomplishment precarious. Nature leaves to man's freedom and his fallible judgment the choice of that course by which fulfillment may be sought. Man will, however, never choose wisely except in so far as he finds his center in himself and accepts the status within nature upon which alone a moral superstructure can be soundly raised.