METAPHYSICS

An Introduction

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I

METAPHYSICS: ITS PROGRAM AND PROBLEMS

1 *A Sketch of the Background*

THE CLASSIC TRADITION

Ever since the human race has been able to reflect and think in general terms, we have been facing the great problems: What manner of creature is man? What kind of world does he inhabit? With whom does he share it?

These problems, which are clearly of the first importance, lie at the base of metaphysics and so at the heart of philosophy. They give philosophy both its direction and its drive. The elaborate intellectual systems developed during the history of Western thought furnish comprehensive answers to these simple yet profound questions. Metaphysics is concerned with the overall framework of reality. It asks the character of matter, life, mind, and God; of space, time, and numbers; of cause, freedom, and fate; of objects and events. Details, by contrast, tend to be left aside. You will not find, in a book of metaphysics, any account of the difference between one sort of spider and another.

An interest in man's situation and destiny is not, of course, a monopoly of the philosophers—every reflective or curious person wonders about such things, and every religion gives its own answers. What sets metaphysics apart is not the peculiarity of its basic questions, but its distinctive method of approach. Metaphysics is the attempt to answer our simple, central questions thoroughly and systematically, and to answer them using only natural human faculties, of which reason is the chief. This is what makes philosophy the rival of revealed religion; religion offers for the problems of our origin, nature, and fate, solutions deriving from tradition, or from a divine revelation claimed by a visionary. But the rule in philosophy is to accept and adopt only those doctrines which can be substantiated by the use of man's natural powers for finding things out.

The impulse to metaphysics is the desire to know, and to know in general terms, which it shares with the sciences. (Indeed, the difference between

metaphysics and science is itself a philosophical problem of some importance, as we shall shortly see.) This impulse has given us the great philosophies of time and eternity, of matter and spirit, of atoms and ideas, which adorn our intellectual history. These philosophies are rival answers, each claiming the endorsement of reason, to the great conundrums of man and nature—the problems, in Kant's epitome, of God, freedom, and immortality. But they are not just rivals. They form a tradition, for they grow out of one another by development and reaction. The history of metaphysics is the history of a sustained attempt, often lost or diverted, often renewed, to find out the general nature of the cosmos, and to determine man's place in it.

Our Western tradition in metaphysics is classic in both senses; it derives from the Greek civilization of classical times, and, like the traditions in portraiture or the novel, it forms a connected achievement in terms of which new departures are defined and understood. Its program, to determine the general structure of all being, clearly engaged Descartes and Spinoza in the seventeenth century no less than Plato and Aristotle in antiquity or Aquinas in the Middle Ages. And beneath the confusion into which modern philosophy has fallen, that program is with us still.

APPEARANCE AND REALITY

Metaphysics aspires to provide a correct, profound, and comprehensive account of the true character of everything there is; it is clearly a most ambitious enterprise. Anyone with a properly modest conception of human capacities might well wonder whether the task metaphysics sets itself does not overtax us as much as we think it overtaxes other living creatures. So the classic tradition has never been without its skeptical critics aiming shafts of argument or derision at the pretensions of metaphysical philosophy. In modern times this skepticism cultured philosophy and precipitated a crisis in metaphysics whose origin and progress we must now consider.

To work out a general theory of the world with only our senses and our wits to go on is hard enough. Especially as we do not know in advance how much, or what, may be imperceptible, or too far away, or somehow "outside" space altogether. And it is made immeasurably more difficult by human fallibility. Our race early discovered, as each of us rediscovers, the cardinal if discouraging truth that things are not always what they seem.

We can err in perception, mistaking strangers for friends, sticks for snakes, or swifts for swallows, especially if the light is poor or the objects far off. Even in good conditions, spearing fish from above the water can be a frustrating business.

We can err in conception, too, classing seals with sharks, or taking dreams to be travels in a magic land. Sometimes we are lucky enough to learn of our mistake, and if this makes us more canny our chances of survival improve. But just think how much more difficult the metaphysicians' program now appears. For the philosophical mind will quite naturally wonder how many *undetected* errors

there are, how much even the best perception is misleading, and how often new, revised, "correct" opinions will in turn be revealed as less than adequate to the facts. This questioning mood is reinforced by contact with other peoples whose philosophy and science differ greatly from our own, and by the spectacle of scientific theories constantly modified, subverted, and replaced. The beginning of wisdom is a lively sense of how much our opinion may be no good guide to reality.

This sense springs not only from catching ourselves in error occasionally; positive reasons support it. Darwin's account of our origin encourages us to expect perceptual information to have survival value at the expense, perhaps, of metaphysical accuracy. Marx's account of the formation of opinion in society, tracing it to social structure rather than the natures of things, furnishes fresh grounds for diffidence. Freud's portrait of our mental processes scarcely gives us new confidence in the rationality of man. But these modern developments only continue and confirm a loss of innocence that is as old as philosophy itself. It can be summed up thus:

Ordinary ways of coming to know are fallible, and so ordinary belief is at best partial and provisional. The chances are that a fair proportion of historical, scientific, and common sense belief is false.

In metaphysics, the upshot of the loss of innocence was a distinction between appearance (how the world seems) and reality (how it actually is). The painful truth is, then, that appearance and reality may, or may not, coincide.

The metaphysician, whose aim is to discern reality, thus finds one more hurdle in his path, a hurdle of unknown but clearly considerable height.

Appearance is not to be confused with illusion. Illusory beliefs are exactly those with no basis whatever in reality. They are unmitigated falsehoods; they cannot serve as a guide or basis in any way. But appearances are not so forlorn. They concern how the world seems, and do depend on the realities of the matter. Thus, for example, my dream belief that I am fixed to one spot belongs to illusion, and my waking account of the world need not accommodate any fact of fixedness. But my belief that the sun traverses the sky belongs to appearance. If I am to deny this, my theory must point to some fact—the spin of the earth, perhaps—which explains the sun's apparent motion. Folk who see the sun sinking slowly in the west are not having hallucinations. They are not dreaming. Even if not adequate, their belief has a claim to consideration. It rests upon and derives from some real fact. A sound philosophy must account for the sun's apparent motion, but not for my being apparently (in my dreams) fixed to one spot. In that case, the only thing to be accounted for is my mistake that I am fixed.

When Democritus claimed that in reality there were atoms and the void, while all else, such as colors, existed only "by convention," he did not mean that a blind or colorblind man was no worse off than a normal person in exploring the world. He meant that, for example, the real difference between a green and a golden apricot, the difference in the objects, underlying and explaining their difference in appearance, was not an ultimate and basic difference in color, but a difference in the shapes, sizes, arrangements, and motions of the imperceptible

atoms. There *is* a difference between green and golden apricots. This difference, apparently one in color, is really one in atomic constitution. Color vision is a guide to reality, but not a direct one. Colors belong to appearance, not illusion, in the theory of Democritus.

The distinction Democritus makes between appearance and reality is crucial to science no less than philosophy. The philosophers have just used the idea more widely and more radically. Berkeley, for example, claimed that in reality there were only minds, divine or created, and no material bodies. He held that what we call bodies were collections of "ideas," mental things such as looks, tastes, and feels. He did not mean that there was no difference between a madman having visions of Armageddon and a sober gentleman, in command of his faculties, inspecting his estate and assessing the crops. He meant that the difference was not, as commonly thought, between what was really there to be seen and what wasn't. The difference was, rather, between consistent and reliable patterns of ideas in the experience of the sober gentleman, and detached, fragmentary, unintelligible sequences of ideas in the other.

The distinction between appearance and reality is not necessarily between what is *perceptible* and something else; rather it is between what is claimed in a superficial or unreflective theory of the world and what goes closer to the heart of things. The theory (appearance) which is to be surpassed, in some philosopher's thought, need not be one closely tied to perception. For example, when Russell argued that atoms, being imperceptible, should be considered as "logical constructions" out of perceptible items, he was relegating atoms to the world of appearance. He was not dismissing atomic theory as illusory; he agreed as cordially as anyone that the world behaves *as if* there are atoms. He was recommending that we think of atoms as we think, for example, of trends. Consider the trend of population from the country to the city. Everyone knows there is *really* no such thing as a trend. To go looking for it, in the country, or the city, or even on the roads and railways leading from one to the other, would be ridiculous. This trend is a logical construction out of people's changing their places of residence. To say there is such a trend is to say changes from country to city outnumber changes in the other direction. Such a trend is no illusion. We would be under an illusion if we thought the trend was the other way; no real facts underlie the reverse trend. But a trend is not a reality either. We can express this situation by saying that a trend must be reduced to a relationship—in our example, a relationship among changes of residence. And Russell was recommending that atoms should be reduced to elements and relationships among what can be directly perceived. The problems involved in reduction will engage our attention later. In general, though, appearance is to be reduced to reality, and illusion is to be detected and then ignored.

Any metaphysical project takes shape about the threefold distinction among reality (what truly is), appearance (what merely seems to be, yet has its foundation in real facts), and illusion (what merely seems to be, and lacks foundation). The metaphysician's task is (just!) to determine the constitution of reality, to account for appearance on that basis, and to set illusion aside.

THE RESPONSE TO THE PROBLEM OF APPEARANCE

The recognition of human fallibility poses for metaphysics a severe problem. It opens up the possibility that all ordinary methods of discovery yield appearance only. All ordinary knowing is provisional and subject to revision. It may all prove on deeper analysis to give no specification of reality but remain wholly within the domain of appearance. Yet the very task metaphysics sets itself is to pierce the veil of appearance, to pass beyond how things seem, to reach to the basic, inner, and perhaps hidden heart of the world.

Philosophers responded to this dilemma by seeking a special method for metaphysics. They sought some way of proceeding which would not be fallible, but which could offer a guarantee of surmounting the hurdle of appearance, which could win through to certitude and thus reality.

So Plato devised the method of dialectical ascent, in which, by analysis of common opinion and reflection upon it, we may rise to abstract thought. We attain a new, higher vantage point of thought from which the necessary structure of reality is visible to the "mind's eye." We come to comprehend the adequate reasons which guarantee our beliefs, and so reach knowledge of reality.

Out of this approach grew the practice of analyzing the concepts we employ in describing the world, sifting from among them certain essential basic elements, categories, which must underpin any knowledge whatever. It was the claim of Aristotle and the Scholastics who came under his influence that these ideas, such as substance, cause, and change, are quite indispensable to thinking. They must therefore be given a place in any metaphysic. Observation and hypothesis, the methods of science, are fallible and concern details. But reflection and analysis, the methods of metaphysics, working on knowledge rather than on the world directly, uncover the necessary and general structure of fact.

Descartes's response to the problem of appearance was to reject everything provisional and uncertain. He claimed that only the immediate, rational apprehension of "clear and distinct ideas" could provide any basis for a knowledge of reality. Logic and the intuition of some few indubitable truths, such as that Descartes is a thinking being, would enable him to pass beyond the hazard and confusion of that fun fair, appearance, to the limpid security of reality.

The requirement of a superior method for metaphysics combined with an enthusiasm for the new, mathematically formulated rational science of the seventeenth century to produce, in Descartes and still more explicitly in Hobbes and Spinoza, a commitment to mathematical method. Euclidean geometry furnished the model, with its axioms evident to logical insight, its proofs so rigorous as to exclude error, and its theorems so unexpected, so enlightening, and so incontrovertible. First principles manifest to the natural light of reason and arguments of deductive strength were to yield a solid edifice of metaphysical truth. This metaphysics would incorporate the new physics of Galileo and Newton as appearance but pass beyond it to an account of the real nature of time, cause, and matter and extend to a doctrine of God and of man.

In its most austere form, the mathematical method required that every com-

ponent doctrine in a metaphysical system be guaranteed by the principle of noncontradiction. That is, every component must have a negation which is a self-contradiction. Since a self-contradiction cannot possibly be true, *its* negation (the original doctrine) cannot possibly be false. A metaphysics composed in this way would thus treat of what must be. Its subject matter would be reality itself. This austere reliance on nothing but the principle of noncontradiction was explicit in Spinoza from the first. Leibniz had two principles, noncontradiction and sufficient reason, the latter requiring of a doctrine that it be demonstrated from necessary premises. Subsequent commentators hold, for the most part, that the sufficient reason principle amounts to a reformulation of noncontradiction rather than a genuinely new rule.

With the adoption of the mathematical, rationalistic method, a beguiling prospect opens before us. The new method will yield us propositions of a higher order than the vague, confused, and changing deliverances of perception or tradition. The mutual connection of these propositions will guarantee their truth. We surmount the barrier of appearance and can hope to make out at least the main features of reality. No wonder many an author in the seventeenth century wrote a treatise on the "right conduct of the understanding" in which the mathematical method was recommended and exemplified. Metaphysical knowledge will be doubly excellent, at once most sublime in content and highest in certitude.

There was, however, a hitch. The recommended method for metaphysics was clear: imitate formalized mathematics, of which Euclidean geometry provided the most shining example. The result of employing this method should match the result in mathematics. We should arrive at a compact body of doctrine, assented to on all sides by all who take the trouble to understand it. But nothing of the sort happened. Rather, dispute and disagreement flourished as never before. Consider the systems of the four most notable practitioners of mathematizing philosophy. Descartes's world contains a single, spread-out material cosmos or space (with an internal complexity which accounted for the appearance of many distinct bodies), a divine mind, and sundry finite minds (people) associated with portions of matter. His philosophy is theistic, dualist in kinds of substance, and admits a plurality of minds.

Hobbes's system is atheistic (though he didn't say so) and recognizes just one kind of substance, matter.

With Spinoza we find a strictly monistic system; there is just one substance, God-or-Nature, of which bodies commonly considered, atoms or particles of a scientific kind and finite minds like ourselves, are all aspects or "modes"—all appearances. As reality's properties are all eternally necessary, time and change must also be in some sense mere appearance, but space (God's extension) is real. Spinoza is a pantheist, and his God is both material and mental in character.

Finally in Leibniz's portrayal of reality we encounter infinitely many minds, most of them very elementary, called "monads," plus God, a special monad distinct from the others. Space and matter belong to appearance; everything real is a living experiencing being. The system is a theistic idealism.

What a bewildering array of doctrines! Think of the scandal such confusion of teaching would occasion in mathematics. The failure to arrive at agreed results by the method which seemed to promise them was serious enough on its own. And this failure carried a special sting because of the faith the method places in the principle of noncontradiction. For in every case of disagreement, at least one party must be denying a metaphysical truth. So if metaphysics is governed by the principle of noncontradiction, at least one party must be asserting a self-contradiction. It followed that some of the finest minds in Europe could not spot a contradiction when it was directly before them. This certainly couldn't be explained away by saying they were not paying attention. Yet the ability to detect contradiction was supposed to be part of the basic logical endowment with which all nonidiot humans are equipped for the trials of life.

In this situation a judicious observer would suspect that something had gone badly awry. But what? It was that skeptical Scot, David Hume, who furnished a diagnosis. When the implications of his diagnosis were fully appreciated, metaphysics was plunged into a crisis of unprecedented severity.

METAPHYSICS IN CRISIS: HUME'S FORK

In Hume's opinion, metaphysics was a fatally and irredeemably misconceived enterprise. In the celebrated passage with which he ends his *Inquiry Concerning the Human Understanding,* we read:

> If we take in our hand any volume, of divinity or school metaphysics, for instance; let us ask, Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames; for it can contain nothing but sophistry and illusion.

Why is it impossible for metaphysics to be anything but sophistry and illusion? Because it is designed to be superior in two different ways from common science or history: it claims to pass beyond appearance to reality, and it claims the certitude of necessity. Hume undertook to show that these excellences, so far from reinforcing one another, were incompatible and mutually destructive. He argued his position with subtlety and at length in classic works which you must surely read.

Let us use a more modern jargon to express Hume's point. We can classify truths in many different ways; three pairs of contrasts are these:

1. Some truths are *necessary* and some are *contingent.* That is, some express what *must* be so, while others express what is so, as it happens, but could have been otherwise. Black swans must be black, but they just happen to be, say, indigenous to Western Australia.
2. Some truths are *a priori* and some are *a posteriori.* That is, some can be known in a way quite independent of observation, experiment, or other laborious method of discovery. They are known by a faculty of mind which

grasps the truth with no assistance from perception or guesswork. That there are prime numbers greater than one million, for example, counts as a priori, for it is provable (an a priori procedure) from simple arithmetical truths to which we assent as soon as we grasp their meaning. That in Queensland some fish have lungs, on the other hand, is a truth discovered a posteriori, by exploring with our senses and our wits about us.

3. Some truths are *analytic* and some are *synthetic*. A truth is analytic if the property ascribed by the predicate is already affirmed, explicitly or implicitly, in the term by which the subject is named. Thus, if I say "All legless lizards are legless," the predicate merely echoes a part of the subject. Likewise if I say "Venomous snakes have a poisonous bite," but in this case the repetition is implicit and only emerges when a definition is supplied in the place of "venomous." Much the same applies in a negative sense, too. "No fresh water crocodiles live in salt water" is analytic.

   A synthetic truth, by contrast, has a predicate which passes outside the circle of ideas introduced by the subject term. "No legless lizards are venomous" is an example, and so is "All penguins can swim."

Hume's argument now proceeds: Every synthetic truth introduces a new idea not present in the subject term. This newly ascribed property may or may not belong to the subject. So every synthetic truth is contingent. Furthermore, if a truth is contingent, it can only be known by a laborious discovery procedure. No immediate grasp of its truth, when once it is understood, is possible. So every contingent truth, if known at all, is known a posteriori. Consequently, although we have three sets of distinctions, they all divide truths into exactly the same two classes: those that are contingent, a posteriori, and synthetic on the one hand, and those which are necessary, a priori, and analytic on the other. This twofold division of truth is Hume's fork.

How can analytic truths be known a priori? Because we need only compare the ideas in subject and predicate to see whether they include or exclude each other. To tell whether legless lizards are legless, or black swans black, no investigation of lizards or swans is required. Analytic truths are necessary for a similar reason; since they affirm only relations among ideas, they can remain true no matter what we find when we turn from ideas to the world itself. But there is a heavy price to be paid for the necessity and certainty of analytic truth. Precisely because analytic truths run no risk of falsification by the concrete nature of the world, they can make no substantial contribution to our knowledge of that world. Analytic truths record only which of our ideas are contained in or excluded from each other. They do not advance our knowledge of the world which we describe by means of those ideas. Only synthetic, a posteriori, contingent truths can do that.

This philosophy wreaks havoc with the rationalist metaphysics of the classic tradition. Knowledge, in Hume's account, comprises "abstract reasoning concerning quantity and number" (logic and mathematics), which is analytic and necessary, and "experimental reasoning concerning matter of fact and existence" (science, history, common sense), which is synthetic and contingent.

But metaphysics as proposed by Plato, Aquinas, or Spinoza belongs to neither category. It aspires to be "abstract reasoning concerning matter of fact and existence." The being of God and the nature of the world are not matters of "quantity and number."

Hume's diagnosis portrays metaphysics as claiming to be simultaneously substantial and necessary. And he claims that no truths can be both. His argument has two parts. First, all necessary truths are analytic. Second, no analytic truth is substantial. So no truths are both necessary and substantial, as classical metaphysics requires. No wonder he dismissed the entire corpus of school metaphysics as sophistry and illusion.

The comprehensive ruin of metaphysics which Hume proclaimed requires one more step. A defender of the traditional program could concede that analytic truths are unable to map out the basic framework of reality. Yet he could insist that some special way of knowing, some spiritual intuition or divine illumination, some inner light or gift of discernment is available. Further, he could claim that by proper use of this special faculty we may come to substantial synthetic truths, which will not be necessary in the way that truths of logic are, but will nevertheless be superior to the findings of geographers or chemists in profundity and certitude. These truths, the fruit of special insight, specify reality.

Hume's empiricism blocks this defense. Empiricism is the doctrine that in the last analysis, all we have to go on in the discovery of synthetic truth is the testimony of our senses. All inner intuition and supernatural assistance are denied. But the testimony of the senses is testimony to appearance only. The route out of appearance into reality is barred. Metaphysics is a forlorn endeavor, a waste of time, a misbegotten enterprise born of miscalculation about the scope and depth of human capacities.

KANT'S MODEST PROPOSAL

Hume's criticism of the traditional practice of metaphysics gained in power and effectiveness the more widely it was understood. Kant acknowledged that it aroused him from his "dogmatic slumbers" as an inheritor of Leibniz and Wolff in Germany.

Thoroughly awakened to the unsatisfactory nature of rationalist, "mathematical" metaphysics with its fatal reliance on the principle of noncontradiction alone, Kant set about a salvage operation. In his classic *Critique of Pure Reason*—another book you must surely read—he assessed the situation thus:

a. Hume is right that analytic truths cannot yield substantial knowledge of the kind a real philosophy requires.

b. Hume is right, further, that we lack any faculty of mind which can pass beyond what appears in perception and reveal to us the character of reality. In Kant's terminology, appearance is the "phenomenal world" while reality is "noumenal." We have no intuition of noumena, he concedes.

c. But, perplexingly, Hume is wrong to affirm we have no synthetic a priori knowledge. Kant made a reappraisal of this question, reaching the conclusion that we are in possession of synthetic a priori knowledge in mathematics, both arithmetic and geometry, and on certain metaphysical questions, for example:

> Space is three-dimensional; time has one dimension.
>
> Everything perceived has a location in space.
>
> Every event has a cause.
>
> The phenomenal world (appearance) is made up of stable, enduring, reidentifiable things.

Kant's theory to account for this otherwise inexplicable fact was boldly radical; we have knowledge not of reality, but of the necessary form which appearance must take. Mathematics and metaphysics, contrary to all previous hopes, contain truths valid for appearance only. The modesty of his proposal now emerges. For we account for the a priori and necessary character of these special synthetic truths by a desperate expedient; the content of experience is a subjective succession of ideas. These ideas, generated we know not how by we know not what realities, are put into an intelligible form and order by the active, structure-imposing mind of the perceiver. The examples given above of claims concerning space, time, and cause express this form and order which are impressed on experience by the receiving mind. These truths are synthetic, for they express a substantial fact of order which might, abstractly, have been different (though we could not imagine experience in which they failed).

They are necessary in the sense that no sequence of experience, conforming by hypothesis to these orderings, can refute truths in which that order is expressed.

They are a priori, for no rummaging among perceptions is required to discover their truth. Reflection upon any sequence of experience confirms them beyond the danger of revision.

Kant's modest proposal is therefore to abandon the high aspiration of unlocking the universe's secret, and to rest content with a revised program for metaphysics which hopes only to delineate the inevitable structure of the sequence of perceptions in experience. Mankind's knowledge is confined within the limits of appearance. We can never attain to knowledge of the real world.

In Kant's philosophy, as in Hume's, appearance is peculiarly confining. It extends only to the mental experiencing involved in perception. It does not include even the familiar material world, independent of mental experience, which in common life we claim to know something about. We do not see birds and trees, or crash into doors and tables, as these matters are ordinarily understood. We enjoy perception, of a mental character, *as of* birds, trees, doors, or tables, and dignify properly behaved patterns of these mental perceptions with the honorifics 'bird', 'tree', or whatever. A knowledge of appearance is, for these idealist philosophers, knowledge of a subjective inner world of experience. We

cannot claim even a half-reliable grasp of real things beyond our own minds. Kant consoles us in our ignorance with knowledge of certain orderly patterns into which our experience must of necessity fall.

In my opinion, Kant's modest proposal should not be accepted. Kant claimed that all scientific observation must surely confirm certain laws, but the most important of these have been repudiated: in general relativity, space does not conform to Euclid's theorems; in special relativity, motion does not obey Newton's laws; in quantum theory, the strict principle of causal determinism does not apply. Kant backed some losers, and so we would be better off with Hume's cautious "wait-and-see" attitude to scientific theories (theories concerning, in these idealist philosophies, the patterns of perceptual experience, not the behavior of independent things).

But it is not just that Kant was unfortunate in his choice of synthetic necessary laws. Rather, seeking for, or even finding, necessary patterns in experience is no substitute for a science and a metaphysics which attempt to discern the nature of the real world. And to call the new search for patterns in subjective experience by the old name "metaphysics" is just whistling in the cosmic dark. If we do decide subjective appearance is the limit of knowledge, we do better to express our decision in a frankly skeptical way, like Hume, and abandon any pretense of metaphysics at all.

Yet really to abandon metaphysics of the traditional kind is far from easy. Kant himself encountered this difficulty. Apart from God, in whom he believed for reasons deriving from moral philosophy, we are told that the real or noumenal world contains 'things-as-they-are-in-themselves' (that is, not-as-experienced-by-us) whose nature is unknown and unknowable *except* that they are not in space, not in time, not subject to causal law, and yet they somehow manage to give rise to successive, spatially ordered perceptual experiences in us, and we ourselves are in turn mysterious noumenal objects. This is, for all its negative tone, a doctrine of the nature of reality, a metaphysics. And, we may add, an extremely incredible one.

Kant cannot do without it, however, without allowing that perhaps birds, trees, doors, and tables cause our perceptions. These objects, having a reality of their own independent of the mind which perceives them, would not have to conform themselves to the mind's structural principles. So Kant would be left without any explanation of how some synthetic truths can be necessary. His defense of "metaphysics" as setting out the sure frame for all our experience would fail.[1]

So philosophy was in a dilemma. On the one hand, metaphysics seemed inevitable. On the other, empiricist criticism made it seem impossible. To sum up that empiricist criticism, human powers of attaining truth are not adequate for the aspirations of classical metaphysics to transcend appearance and apprehend

1. This is a very brief review of the thought of a great philosopher. The ultimate interpretation of Kant is still a subject of controversy, and some commentators deny that he is committed to the doctrines which make his position, in my opinion, unacceptable.

reality. We can know nothing beyond the circle of appearance. For we can know only that which can be authenticated in perception, and since perception is fallible, it cannot take us beyond appearance.

A stalemate prevailed throughout the nineteenth century, with some philosophers, such as John Stuart Mill, continuing in the skeptical tradition of Hume, and others following Hegel in clinging to the view that pure reason—using a more powerful dialectical logic, perhaps—can surpass the limitations of perception, exploration, and experiment.

2 *Metaphysics in Recent Years*

With the new century, Russell and Wittgenstein led a return to the Aristotelian strategy in metaphysics. Their procedure was to make a careful analysis of assertions in which we describe the world. This analysis, properly performed, will reveal the elements which any well-formed assertion must have. And corresponding to them will be necessary structural elements of the world which the assertion describes.

There are two steps to the procedure. First, sentences in common speech and even in the sciences often hide their true logical form and must be recast to show their form clearly. This may require some surprising revisions. For example, sentences containing ordinary proper names such as 'Plato' or 'Pegasus' or definite descriptions such as 'the richest man in Scotland' give rise to logical anomalies in those cases where there is no object corresponding to the name or description; so Russell proposed to recast them all in such a way that proper names and descriptions no longer appear.

Second, once sentences are cast in proper logical form, we must determine their truth conditions, that is, settle what the world must be like in order for them to be literally true. Included in these truth conditions will be formal, structural elements which will make up the metaphysics.

This procedure is similar to Aristotle's, but the logic used in recasting ordinary sentences is symbolic or mathematical logic, which had recently been developed by Frege and Russell himself,[1] among others, and which supersedes the traditional logic descending from Aristotle. When we use this method, with mathematical logic as the basis, the result is the philosophy of logical atomism.

1. Frege was a German mathematician and philosopher whose *Begriffschrift* was his most important logical work. Whitehead and Russell's *Principia Mathematica* is the English classic.

According to logical atomism, the world is a structure compounded from absolutely simple facts. The simple facts correspond to the atomic, or simple, logical sentences. And the familiar, complex facts of experience are built up from them in ways which parallel the combinations of logic.

It was not metaphysics on this Aristotelian pattern, but mathematical rationalism, which was the primary target of Hume's critique. But the empiricist challenge is one that all forms of metaphysics, including logical atomism, have to meet. In this case what needs to be shown is that careful, reflective dissection of truths cast in proper logical form, although not a method relying on the use of the senses, can yield substantial information, and not just the empty "relations among ideas" which we find in the standard examples of analytic truth. I think that this can be shown; to avoid Hume's criticism, however, we will have to abandon the idea that this method will give us knowledge guaranteed necessarily correct by the principle of noncontradiction. But this way of meeting the empiricist challenge never was explicitly worked out. So the status of metaphysical doctrine remained in doubt.

LOGICAL EMPIRICISM: THE CRISIS DEEPENS

In the years following the First World War, an influential band of philosophers known as the Vienna Circle, and their followers, worked to make the empiricist critique of metaphysics deeper and sharper. These men, of whom Carnap is the most representative, developed a philosophy known as logical empiricism or logical positivism. It is called *logical* empiricism because it is based not so much on an epistemology (an account of the limits of human knowledge) as on a semantics (a doctrine of the meanings of terms and of the sentences they form).

The basis of this philosophy, implicit in much earlier empiricist thought but now brought to the surface and moved to the center of the stage, is the principle of verification.[2] This principle is concerned with contingent truths and has two strands:

a. A concept is legitimate only if rules can be given for its application within experience.

b. A proposition's meaning is given by specifying which experiences verify and which falsify it.

For empiricists, experience is always perceptual experience.

You will readily appreciate that metaphysics does not fare well under this principle. It emerges as either impossible or unnecessary. On the one hand, if the great metaphysical concepts such as God, substance, being, or cause can be

2. See A.J. Ayer, *Language, Truth and Logic*, for a general exposition of this principle.

found no place within perceptual experience, then metaphysics is impossible. The history of metaphysics becomes a tale told by a succession of idiots, full of sound and occasional fury, signifying nothing. This was the favorite stance of the iconoclastic positivists.

On the other hand, if the great concepts and doctrines can be reinterpreted in such a way that, after all, they make no reference except to the world of appearance, then metaphysics is unnecessary. For on this alternative, metaphysical truths merely use a high-falutin' verbiage to express truths of experience, and a homespun vocabulary would be less misleading.

If the verification principle is correct, we are cut off from speaking or thinking in words of any world but that of perceptual appearance. What cuts us off is the incapacity of human language to make any significant claim about any other world. A doctrine transcending appearance is not merely one we cannot know; it is no genuine doctrine at all. For despite its misleadingly normal form, the sentence used to express it is meaningless. The attempt either to prove or to refute metaphysical pseudodoctrines does not commend itself to people of good sense.

But if the verification principle is correct, and metaphysics is meaningless pseudodoctrine, what had the great philosphers actually been doing when they wrongheadedly attempted the impossible and proposed a description of the world's true character? Various accounts were offered. Carnap considered that some doctrines were misleading expressions of a recommendation to cast all genuine, verifiable knowledge in one form rather than another. A metaphysic of substances, for example, was actually a recommendation to use the traditional subject/predicate form of sentence. A preference for subjective idealism or objective realism was actually a preference for the vocabulary of sensation or the vocabulary of ordinary things in our descriptions.[3] Wittgenstein, by this time uncompromisingly hostile to traditional metaphysics, regarded it as the mere product of confusion over the conditions governing the significant use of terms. When these conditions are violated, metaphysics, a body of dogma with no value, is the result.[4]

John Wisdom was kinder; he held that the ordinary use of terms often involves incompatible conditions in tension with one another. A metaphysician is a person who selects in a one-sided way just some of the incompatible rules and presses them to the limit. In this way he produces doctrines astonishingly at variance with common sense, such as the unreality of time, or the dependence of everything upon everything else, or the nonexistence of matter.[5]

Morris Lazerowitz takes a different tack. He holds that the logically pathological formulas which make up traditional metaphysics are expressions of deep psychic conditions, generally conditions of conflict, in the philosopher's mind. They appeal by reverberating in the conflict-torn psyche of the reader.

3. R. Carnap, "Empiricism, Semantics, and Ontology."
4. L. Wittgenstein, *Philosophical Investigations*.
5. J. Wisdom, *Philosophy and Psychoanalysis*.

The clue to metaphysics is psychoanalysis; a metaphysical treatise can illuminate the state of a thinker's mind, but as a doctrine of the world it purports to describe, it is worthless.[6]

THE DECLINE OF LOGICAL EMPIRICISM

Fortunately for the reputation of metaphysics, the verification principle proved a great deal too drastic for its own good. First, there was the problem that the principle itself consisted of statements which could not be validated by a direct appeal to perceptual experience. The principle did not conform to the very rules that it itself laid down. Was it then meaningless? Why then should we adopt it—or rather what was there to adopt? (In a similar way, since Hume's *Inquiry* contains neither abstract reasoning concerning quantity or number, nor experimental reasoning concerning matter of fact, it should perhaps be committed to the flames, as the *Inquiry* itself recommends.)

Second, the verification principle made a clean sweep of traditional religion and required a radical moral philosophy in which statements of right and wrong, or good and evil, are reinterpreted as making no objective statement of any kind whatever.

These were difficulties enough to give outsiders pause, although they were not sufficiently crucial to persuade adherents of the principle to abandon it. The crunch came when it was fully realized what havoc the principle wreaks in the sciences themselves, for logical empiricism was fundamentally an attempt to account for the superiority of the sciences over superstition, prejudice, religion, and metaphysics.

It emerged that science and history are full of statements about what cannot be experienced because it is past, or too far away, or too small, or too quick, or because humans are not sensitive to that sort of thing at all.

Attempts were made to reinterpret such statements in terms of perception alone. For example, it was suggested that statements about the past mean something about the *future* discovery of visible traces of the past, and statements about electrons mean something about instrument readings and deposits on electrolytic plates, and statements about electromagnetic waves mean something about the behavior of television and radar sets. But it became clear that these reinterpretations result in such a severe impoverishment of scientific theory that, so far from being a celebration of science, logical empiricism turns out to be an assault upon it. Furthermore, this assault rests on nothing more solid than the verification principle, which is a restrictive account of what concepts and propositions can mean. Yet there is no guarantee that this restrictive account is correct. The principal support for the verification principle is that we do not have any clear account of how a less restrictive range of meanings is possible. Such negative support is insufficient. The verification principle reveals itself as a

6. M. Lazerowitz, *The Structure of Metaphysics.*

dogma, subversive of all that is best in human discovery, namely theoretical science. It deserves to be rejected. With this rejection we open up again at least the possibility of a reputable metaphysics.[7]

METAPHYSICS RESTORED

The attempt to set metaphysics apart from other inquiries has been the root cause of the crises in its history. The picture often drawn has shown science and common sense together on one side, as fallible, changeable, dependent on perception, revealing only an apparent world, and so comparing unfavorably with metaphysics, which is portrayed as certain, based in reason, and able to sit in judgment on science and history from its elevated contact with reality. This picture positively invites the charge that the pretensions of metaphysics outstrip any likely performance.

To my mind, a juster view of the relation of metaphysics to science is one of collaboration, not contrast. Our understanding of both science and philosophy must change. W.V. Quine has been the most prominent of those advocating the needed changes during the last twenty years or so.[8]

On the side of science, it is crucial to realize how much physical or chemical or psychological theory is often attempting. The sciences are not restricted, as is sometimes thought, to bringing order into perceptual knowledge. Often, scientific theory is not merely an extension or refinement of perceptual data, nor just a revelation of regularities in the pattern of phenomena, nor just the introduction of quantitative measure. Theories often pass beyond the phenomena altogether and postulate an unseen world whose detailed workings explain and unite diverse phenomenal effects. The wave theory of light, the atomic theory of valency, the subconscious mental theory of anxiety are typical examples.

So the sciences themselves are operating with a distinction between appearance and reality. Like metaphysics, they are embarked upon the search for the true character of the world, underlying how it seems. Within the sciences one theory gives way to another which promises a deeper penetration of the world's mysteries.

Metaphysical inquiry is distinguished from science, on this point of view, only by attempting a more comprehensive and more systematic basic theory.

And on the side of metaphysics, a *rapprochement* is to be made. Metaphysicians must abandon the hope of finding a theory of the world which can be guaranteed certain. We cannot expect to arrive at any knowledge more surely founded than the self-corrective yet still provisional theories which scientific method yields. Metaphysical truths are synthetic. And they are not necessary in any tough logical sense. They cannot be guaranteed by the principle of noncontradiction. How then are they to be validated? The short answer is that they

7. Here, as with Kant, I am being blunt and short with a comprehensive, important, and in many ways still influential philosophy.

8. See his *Ways of Paradox* for more introductory essays on this theme.

stand at the bar of experience as do all opinions of common life or recondite science. To expand that a little:

The basic complaint of the empiricist critique was that metaphysical truths are immune from refutation in experience. If this is correct, then even if they are synthetic and make claims about the world, they are still pathological. For in that case they could never make good any claim to be believed. That claim can be made good only through having consequences which turn out to be confirmed. Any theory can be immune from refutation only if it has no consequences which, by turning out correct, could establish it.

The immunity from refutation which metaphysical doctrines seem to have is, however, an illusion which springs from too simple a notion of refutation. The problem is that there is no single, specifiable run of perceptions which would prove or disprove "Everything is material" or "Space is not real" or "The world depends on God" or "The link between cause and effect is a necessary one." So the empiricist demand for a specification of the experiences which would prove or disprove such a claim cannot be met in a tolerably brief and straightforward way. And in consequence, these claims become suspect. But on closer inspection it turns out that precisely the same is true of any theoretical statement in science, such as "Gases are clouds of molecules" or "Atomic particles are composed of quarks" or "Radio stars recede rapidly." In all these cases there is ample room to reconcile the theory with an apparently conflicting experimental result. This is done by introducing subsidiary hypotheses explaining why the expected result is not obtained. *Ad hoc* hypotheses can protect any theoretical statement from refutation.

The relations between theory and data are more complex than the idea of refutation by a specifiable run of perception would allow. A theory is accepted and retained so long as it remains an integral part of the best overall explanatory account of the phenomena we encounter. And precisely the same is true of responsible metaphysics. Space, time, God, events, casual determinism, spiritual minds, properties, classes, numbers, substances all have a title to a place in our metaphysic to the extent that they belong in the best total theory. The best total theory is only the best, not the only possible one, and only the best for the time being.

It is, or course, possible to insulate any metaphysical belief from the risk of refutation. This is done by always explaining away every consideration which seems to refute it. But this is not something special about metaphysics. It is equally possible to insulate any belief whatever, whether a favorite scientific theory or some particular claim as to matter of fact, in just the same way. Macbeth can hold onto "There is a dagger before me" so long as he chooses, without self-contradiction, by introducing theories about intangible daggers, violations of laws of gravity, hallucinations of seizing nothing when actually a dagger is in his hand, the unreliability of metal detectors, and so on and so on.

This process of insulating favorite beliefs is familiar enough. It is dogmatism and is an enemy of reason wherever it appears. Metaphysical doctrines are rather more prone to this pathological loyalty than others, because their vast importance gives people a strong emotional commitment to them. But metaphysical questions are not themselves illegitimate just because they can be treated in a dogmatic way.

A clearer conception of the nature of science, together with a chastened program for metaphysics, thus leads us to view metaphysics as continuous with science, sharing both its risks and its dignity. Metaphysics is the attempt to interpret all experience, including science, so as to form one coherent and systematic view of the world and man's place in it. In this way it tackles those simple yet profound questions from which we began. As we shall find, the great philosophers of the past can be seen as engaged in this great enterprise, even if that is not how they themselves would have described it.

In this view metaphysics is in no privileged position from which it can lay down the law for knowledge of other kinds. It is in no position to insist, for example, that every science must be deterministic. Metaphysics stands subject to correction in the light of the development of science no less than the other way about. As Quine would put it, there is no first philosophy which can give the law to science and pontificate, for example, as to the reality of atoms. Rather, atomic theory and metaphysics both must be validated in the light of one another and the continuing test furnished by the unfolding data of experiment and discovery.

In the words of D.C. Williams:

> Philosophy is not higher and suprascientific. It is the lowest and grubbiest inquiry round the roots of things, and when it answers real questions about the world, it is and can only be an inductive science.[9]

THE NEW CHALLENGE TO METAPHYSICS

The paths of true philosophy never do run smooth. The restoration of metaphysics to an honorable if not supreme place in human thought had scarcely occurred before a new challenge arose. This new challenge comes from a new approach in the philosophy of science.

Hitherto, it had been taken for granted that scientific progress really was progress. That is, when one theory displaced an earlier one or, more spectacularly, took the place of an unorganized collection of facts, problems, and suppositions at the "birth" of a new science, it was assumed in philosophy that the new beliefs were better than the old. And they were better in being more likely to be true, more penetrating, closer to the real truth of the case.

Only on this assumption can the interdependence of metaphysics and science provide a means for validating metaphysical theory. For all contingent truths have a claim to our adherence only if they are rationally superior (more likely to be closer to the truth) than any of the available alternatives.

Now the new approach in the philosophy of science is much more strongly

9. D.C. Williams, *Principles of Empirical Realism*, p. 147. Williams means by an inductive science one of the same logical character as physics.

historical than its predecessors. It has a lively awareness of scientific opinion as constantly changing, either in detail or globally, as one great central theory, like Newton's in physics, gives way to a new one, like Einstein's. And detailed study of the historical record uncovers reasons and motives in the change of scientific belief which are much more haphazard, much less rational, than philosophers have thought to be the case.

We have been accustomed to see scientific change as an orderly march from one theory to another which is more exact, more general, more adequate, and better connected with other theories—in short, a rational advance. But in the work of Thomas Kuhn, for example, we get a picture rather of scientific change as a lurching, directionless course from one poorly based, hazily conceived, and woefully incomplete position to another. Education, fashion, habit, prejudice, and accident seem to determine change as much as anything rationally compelling.[10] The implication is skeptical; what reason have we for supposing that in such circumstances we can approach more nearly to the truth? And in that case, what of a metaphysics which alters, as we saw in the previous section, to accommodate current orthodoxy in the sciences?

Worse follows. Both with Kuhn and with Paul K. Feyerabend, the other most notable radical in contemporary philosophy of science, the standard view of how a theory gets validated is severly handled.[11] It is a mistake, the argument runs, to think of data, the results of observation and experiment, as existing independently of theory. Data do not exist in some objective and unarguable fashion as a firm rock of fact against which to test a theory. Rather, the very lines of inquiry we select, the terms in which we express our results, the frame of reference within which we assess their significance, are all dependent on, among other matters, the very theory for which the data are supposed to provide a test. To put it bluntly, the game is rigged in favor of the theory. The theory leads us to ignore many findings which could prove embarrassing, and as to those we do have to take into account, the theory provides ways of interpretation and adaptation, where results don't quite fit or are 'anomalous', which enable us to cling to the theory despite its *prima facie* refutation by experimental results. When, for whatever reason, we switch to a new theory, then once again the validation game is rigged, but this time in favor of the new theory.

If this is an accurate account of the logic of scientific theory and scientific change, on what grounds could we hold that a metaphysics working in collaboration with developing science is a progressive approach to the reality which underlies appearance?

There is yet a third aspect to the skeptical, antimetaphysical cast of recent philosophizing about science. It is the problem of the validity of the criteria we use in judging a scientific theory. These tests include the precision and simplicity with which the theory accounts for the phenomena, the extent to which the theory is confirmed by new facts beyond those it was invented to explain, and

10. T.S. Kuhn, *The Structure of Scientific Revolutions.*

11. P.K. Feyerabend, "Problems of Empiricism," for example.

how naturally it fits into the general view of the world which we favor. Now these criteria did not drop from heaven engraven on tablets of gold. The tendency to use them is not, so far as we can tell, an inevitable and innate feature of the human mind. On the contrary, their authority developed gradually and painfully in the course of the development of science itself. It is not so long, after all, since conformity with Holy Writ, or conformity with the works of Aristotle, was a recognized criterion for the acceptability of both metaphysical and scientific theories.

But what guarantee could there be that the criteria we now use will select theories which are always getting closer to the truth? Suppose the world is arbitrarily, wildly complex. Suppose different causes are at work each time a similar effect is produced. Those theories which pass our present tests for scientific excellence will in that case misdescribe the world, and the better they are as science the further they will be from touching reality. The skeptical worry here is that perhaps we are demanding the wrong characteristics in our scientific theories.

The problems raised by the new philosophy of science are not spurious. If the traditional view of science as a rational approach to reality is to be vindicated, this new challenge must be met. To do this it must be shown first that despite the vagaries of the actual course of science, later theories are rationally superior to earlier ones; second that despite the links between theories and the data they account for, theories can be objectively tested by comparing their consequences with the actual run of affairs; and third that there is no vicious question-begging involved in the development of a self-critical standard of judgment for theory within the scientific tradition.

It is not yet known whether these three things can be done. Work is still in progress, and it is not clear what the outcome will be. Yet the vindication of metaphysics depends on it. For we have argued that metaphysics, the attempt to approach reality, can be pursued only with and through the attempt of science in the same direction. If science cannot really make any advance of this kind, metaphysics is a lost cause.

For my part, I am confident that this latest challenge can and will be met. But in the long run the only permanently convincing vindication of metaphysics is to be found in the results it can achieve. To a consideration of some of these the remainder of the book is devoted.