mous development. In the following chapters I shall sometimes speak as if it were a distinct part of the mind. While it shouldn't be given a metaphysical interpretation, this way of speaking is not altogether innocent. In some sense I think the same faculty or aspect of us is involved in the various functions of objectivity, and I think it is something real. However we may have come to it, and however incomplete our development of its capacities, it places us both inside and outside the world, and offers us possibilities of transcendence which in turn create problems of reintegration. The reconciliation of these two aspects of ourselves is a primary philosophical task of human life—perhaps of any kind of intelligent life.

The existence of our objective capacity does not seem explicable in terms of something more basic—that is it does not seem reducible to simpler, more reactive, less creative mental operations. It turns out that the human mind is much larger than it needs to be merely to accommodate the perspective of an individual human perceiver and agent within the world. Not only can it form the conception of a more objective reality, but it can fill this out in a progression of objective steps that has already led far beyond the appearances. And it enables different individuals, starting from divergent viewpoints, to converge on conceptions that can be universally shared. In what follows I won't try to account for the existence of the objective self, but will explore its operation in various domains and discuss some of the problems it creates.

V

KNOWLEDGE

1. Skepticism

The objective self is responsible both for the expansion of our understanding and for doubts about it that cannot be finally laid to rest. The extension of power and the growth of insecurity go hand in hand, once we place ourselves inside the world and try to develop a view that accommodates this recognition fully.

The most familiar scene of conflict is the pursuit of objective knowledge, whose aim is naturally described in terms that, taken literally, are unintelligible: we must get outside of ourselves, and view the world from nowhere within it. Since it is impossible to leave one's own point of view behind entirely without ceasing to exist, the metaphor of getting outside ourselves must have another meaning. We are to rely less and less on certain individual aspects of our point of view, and more and more on something else, less individual, which is also part of us. But if initial appearances are not in themselves reliable guides to reality, why should the products of detached reflection be different? Why aren't they either equally doubtful or else valid only as higher-order impressions? This is an old problem. The same ideas that make the pursuit of objectivity seem necessary for knowledge make both objectivity and knowledge seem, on reflection, unattainable.

Objectivity and skepticism are closely related: both develop from the

idea that there is a real world in which we are contained, and that appearances result from our interaction with the rest of it. We cannot accept those appearances uncritically, but must try to understand what our own constitution contributes to them. To do this we try to develop an idea of the world with ourselves in it, an account of both ourselves and the world that includes an explanation of why it initially appears to us as it does. But this idea, since it is we who develop it, is likewise the product of interaction between us and the world, though the interaction is more complicated and more self-conscious than the original one. If the initial appearances cannot be relied upon because they depend on our constitution in ways that we do not fully understand, this more complex idea should be open to the same doubts, for whatever we use to understand certain interactions between ourselves and the world is not itself the object of that understanding. However often we may try to step outside of ourselves, something will have to stay behind the lens, something in us will determine the resulting picture, and this will give grounds for doubt that we are really getting any closer to reality.

The idea of objectivity thus seems to undermine itself. The aim is to form a conception of reality which includes ourselves and our view of things among its objects, but it seems that whatever forms the conception will not be included by it. It seems to follow that the most objective view we can achieve will have to rest on an unexamined subjective base, and that since we can never abandon our own point of view, but can only alter it, the idea that we are coming closer to the reality outside it with each successive step has no foundation.

All theories of knowledge are responses to this problem. They may be divided into three types: *skeptical*, *reductive*, and *heroic*.

Skeptical theories take the contents of our ordinary or scientific beliefs about the world to go beyond their grounds in ways that make it impossible to defend them against doubt. There are ways we might be wrong that we can't rule out. Once we notice this unclosable gap we cannot, except with conscious irrationality, maintain our confidence in those beliefs.

Reductive theories grow out of skeptical arguments. Assuming that we do know certain things, and acknowledging that we could not know them if the gap between content and grounds were as great as the skeptic thinks it is, the reductionist reinterprets the content of our beliefs about the world so that they claim less. He may interpret them as claims about possible experience or the possible ultimate convergence of experience among rational beings, or as efforts to reduce tension and surprise or to increase order in the system of mental states of the knower, or he may even take some of them, in a Kantian vein, to describe the limits of all

possible experience: an inside view of the bars of our mental cage. In any case on a reductive view our beliefs are not about the world as it is in itself—if indeed that means anything. They are about the world as it appears to us. Naturally not all reductive theories succeed in escaping skepticism, for it is difficult to construct a reductive analysis of claims about the world which has any plausibility at all, without leaving gaps between grounds and content—even if both are within the realm of experience.

Heroic thories acknowledge the great gap between the grounds of our beliefs about the world and the contents of those beliefs under a realist interpretation, and they try to leap across the gap without narrowing it. The chasm below is littered with epistemological corpses. Examples of heroic theories are Plato's theory of Forms together with the theory of recollection, and Descartes' defense of the general reliability of human knowledge through an a priori proof of the existence of a nondeceiving God.[1]

I believe, first of all, that the truth must lie with one or both of the two realist positions—skepticism and heroism. My terminology reflects a realistic tendency: from the standpoint of a reductionist, heroic epistemology would be better described as quixotic. But I believe that skeptical problems arise not from a misunderstanding of the meaning of standard knowledge claims, but from their actual content and the attempt to transcend ourselves that is involved in the formation of beliefs about the world. The ambitions of knowledge and some of its achievements are heroic, but a pervasive skepticism or at least provisionality of commitment is suitable in light of our evident limitations.

Though a great deal of effort has been expended on them recently, definitions of knowledge cannot help us here. The central problem of epistemology is the first-person problem of what to believe and how to justify one's beliefs—not the impersonal problem of whether, given my beliefs together with some assumptions about their relation to what is actually the case, I can be said to have knowledge. Answering the question of what knowledge is will not help me decide what to believe. We must decide what our relation to the world actually is and how it can be changed.

Since we can't literally escape ourselves, any improvement in our beliefs has to result from some kind of self-transformation. And the thing we can do which comes closest to getting outside of ourselves is to form a detached idea of the world that includes us, and includes our

1. A fourth reaction is to turn one's back on the abyss and announce that one is now on the other side. This was done by G. E. Moore.

possession of that conception as part of what it enables us to understand about ourselves. We are then outside ourselves in the sense that we appear inside a conception of the world that we ourselves possess, but that is not tied to our particular point of view. The pursuit of this goal is the essential task of the objective self. I shall argue that it makes sense only in terms of an epistemology that is significantly rationalist.

The question is how limited beings like ourselves can alter their conception of the world so that it is no longer just the view from where they are but in a sense a view from nowhere, which includes and comprehends the fact that the world contains beings which possess it, explains why the world appears to them as it does prior to the formation of that conception, and explains how they can arrive at the conception itself. This idea of objective knowledge has something in common with the program of Descartes, for he attempted to form a conception of the world in which he was contained, which would account for the validity of that conception and for his capacity to arrive at it. But his method was supposed to depend only on propositions and steps that were absolutely certain, and the method of self-transcendence as I have described it does not necessarily have this feature. In fact, such a conception of the world need not be developed by proofs at all, though it must rely heavily on a priori conjecture.[2]

In discussing the nature of the process and its pitfalls, I want both to defend the possibility of objective ascent and to understand its limits. We should keep in mind how incredible it is that such a thing is possible at all. We are encouraged these days to think of ourselves as contingent organisms arbitrarily thrown up by evolution. There is no reason in advance to expect a finite creature like that to be able to do more than accumulate information at the perceptual and conceptual level it occupies by nature. But apparently that is not how things are. Not only can we form the pure idea of a world that contains us and of which our impressions are a part, but we can give this idea a content which takes us very far from our original impressions.

The pure idea of realism—the idea that there is a world in which we are contained—implies nothing specific about the relation between the appearances and reality, except that we and our inner lives are part of reality. The recognition that this is so creates pressure on the imagination to recast our picture of the world so that it is no longer the view from here. The two possible forms this can take, skepticism and objective

2. The idea is much closer to what Bernard Williams calls the absolute conception of reality, which is a more general description of Descartes' idea of knowledge. See Williams (7).

knowledge, are products of one capacity: the capacity to fill out the pure idea of realism with more or less definite conceptions of the world in which we are placed. The two are intimately bound together. The search for objective knowledge, because of its commitment to a realistic picture, is inescapably subject to skepticism and cannot refute it but must proceed under its shadow. Skepticism, in turn, is a problem only because of the realist claims of objectivity.

Skeptical possibilities are those according to which the world is completely different from how it appears to us, and there is no way to detect this. The most familiar from the literature are those in which error is the product of deliberate deception by an evil demon working on the mind, or by a scientist stimulating our brain in vitro to produce hallucinations. Another is the possibility that we are dreaming. In the latter two examples the world is not totally different from what we think, for it contains brains and perhaps persons who sleep, dream, and hallucinate. But this is not essential: we can conceive of the possibility that the world is different from how we believe it to be in ways that we cannot imagine, that our thoughts and impressions are produced in ways that we cannot conceive, and that there is no way of moving from where we are to beliefs about the world that are substantially correct. This is the most abstract form of skeptical possibility, and it remains an option on a realist view no matter what other hypotheses we may construct and embrace.

2. *Antiskepticism*

Not everyone would concede either this skepticism or the realism on which it depends. Recently there has been a revival of arguments against the possibility of skepticism, reminiscent of the ordinary language arguments of the fifties which claimed that the meanings of statements about the world are revealed by the circumstances in which they are typically used, so that it couldn't be the case that most of what we ordinarily take to be true about the world is in fact false.

In their current versions these arguments are put in terms of reference rather than meaning.[3] What we refer to by the terms in our statements about the external world, for example—what we are really talking about—is said to be whatever *actually* bears the appropriate relation to the generally accepted use of those terms in our language. (This relation is left undefined, but it is supposed to be exemplified in the ordinary world by the relation between my use of the word 'tree' and actual trees, if there are such things.)

3. See for example Putnam (2), ch. 1.

The argument against the possibility of skepticism is a *reductio*. Suppose that I am a brain in a vat being stimulated by a mischievous scientist to think I have seen trees, though I never have. Then my word "tree" refers not to what we now call trees but to whatever the scientist usually uses to produce the stimulus which causes me to think, "There's a tree." So when I think that, I am usually thinking something true. I cannot use the word "tree" to form the thought that the scientist would express by saying I have never seen a tree, or the words "material object" to form the thought that perhaps I have never seen a material object, or the word "vat" to form the thought that perhaps I am a brain in a vat. If I were a brain in a vat, then my word "vat" would not refer to vats, and my thought, "Perhaps I am a brain in a vat," would not be true. The original skeptical supposition is shown to be impossible by the fact that if it were true, it would be false. The conditions of reference permit us to think that there are no trees, or that we are brains in a vat, only if this is not true.

This argument is no better than its predecessors. First, I can use a term which fails to refer, provided I have a conception of the conditions under which it would refer—as when I say there are no ghosts. To show that I couldn't think there were no trees if there were none, it would have to be shown that this thought could not be accounted for in more basic terms which would be available to me even if all my impressions of trees had been artificially produced. (Such an analysis need not describe my *conscious* thoughts about trees.) The same goes for "physical object". The skeptic may not be able to produce on request an account of these terms which is independent of the existence of their referents, but he is not refuted unless reason has been given to believe such an account impossible. This has not been attempted and seems on the face of it a hopeless enterprise.

A skeptic does not hold that all his terms fail to refer; he assumes, like the rest of us, that those that do not refer can be explained at some level in terms of those that do. When he says, "Perhaps I have never seen a physical object," he doesn't mean (holding up his hand), "Perhaps *this*, whatever it is, doesn't exist!" He means, "Perhaps I have never seen anything with the spatiotemporal and mind-independent characteristics necessary to be a physical object—nothing of the kind that I take physical objects to be." It has to be shown that he couldn't have *that* thought if it were true. Clearly we will be pushed back to the conditions for the possession of very general concepts. Nothing here is obvious, but it seems clear at least that a few undeveloped assumptions about reference will not enable one to prove that a brain in a vat or a disembodied spirit couldn't have the concept of mind-independence, for example. The main issue simply hasn't been addressed.

Second, although the argument doesn't work it wouldn't refute skepticism if it did. If I accept the argument, I must conclude that a brain in a vat can't think truly that it is a brain in a vat, even though others can think this about it. What follows? Only that I can't express my skepticism by saying, "Perhaps I'm a brain in a vat." Instead I must say, "Perhaps I can't even *think* the truth about what I am, because I lack the necessary concepts and my circumstances make it impossible for me to acquire them!" If this doesn't qualify as skepticism, I don't know what does.

The possibility of skepticism is built into our ordinary thoughts, in virtue of the realism that they automatically assume and their pretensions to go beyond experience. Some of what we believe must be true in order for us to be able to think at all, but this does not mean we couldn't be wrong about vast tracts of it. Thought and language have to latch onto the world, but they don't have to latch onto it directly at every point, and a being in one of the skeptic's nightmare situations should be able to latch onto enough of it to meet the conditions for formulating his questions.[4]

Critics of skepticism bring against it various theories of how the language works—theories of verifiability, causal theories of reference, principles of charity. I believe the argument goes in the opposite direction.[5] Such theories are refuted by the evident possibility and intelligibility of skepticism, which reveals that by "tree" I don't mean just anything that is causally responsible for my impressions of trees, or anything that looks and feels like a tree, or even anything of the sort that I and others have traditionally called trees. Since those things could conceivably not be trees, any theory that says they have to be is wrong.

The traditional skeptical possibilities that we can imagine stand for limitless possibilities that we can't imagine. In recognizing them we recognize that our ideas of the world, however sophisticated, are the products of one piece of the world interacting with part of the rest of it in ways that we do not understand very well. So anything we come to believe must remain suspended in a great cavern of skeptical darkness.

4. There is perhaps one form of radical skepticism which could be ruled out as unthinkable, by an argument analogous to the *cogito*: skepticism about whether I am the kind of being who can have thoughts *at all*. If there were possible beings whose nature and relation to the world was such that nothing they did could constitute thinking, whatever went on inside them, then I could not wonder whether I was such a being, because if I were, I wouldn't be thinking, and even to consider the possibility that I may not be thinking is to think. But most forms of skepticism are not this extreme.

5. This is a theme of Clarke's and Stroud's work on skepticism. See Stroud, pp. 205–6. Stroud's book is a highly illuminating discussion of skepticism and the inadequacy of most responses to it. He is nevertheless slightly more optimistic than I am about the possibility of finding something wrong with skepticism—and with the desire for an objective or external understanding of our position in the world that leads to it.

Once the door is open, it can't be shut again. We can only try to make our conception of our place in the world more complete—essentially developing the objective standpoint. The limit to which such development must tend is presumably unreachable: a conception that closes over itself completely, by describing a world that contains a being that has precisely that conception, and explaining how the being was able to reach that conception from its starting point within the world. Even if we did arrive at such a self-transcendent idea, that wouldn't guarantee its correctness. It would recommend itself as a possibility, but the skeptical possibilities would also remain open. The best we can do is to construct a picture that might be correct. Skepticism is really a way of recognizing our situation, though it will not prevent us from continuing to pursue something like knowledge, for our natural realism makes it impossible for us to be content with a purely subjective view.

3. Self-transcendence

To provide an alternative to the imaginable and unimaginable skeptical possibilities, a self-transcendent conception should ideally explain the following four things: (1) what the world is like; (2) what we are like; (3) why the world appears to beings like us in certain respects as it is and in certain respects as it isn't; (4) how beings like us can arrive at such a conception. In practice, the last condition is rarely met. We tend to use our rational capacities to construct theories, without at the same time constructing epistemological accounts of how those capacities work. Nevertheless, this is an important part of objectivity. What we want is to reach a position as independent as possible of who we are and where we started, but a position that can also explain how we got there.

In a sense, these conditions could also be satisfied by a conception of the world and our place in it that was developed by other beings, different from us; but in that case the fourth element would not involve self-referential understanding, as it does in the understanding of ourselves. The closest we can come to an external understanding of our relation to the world is to develop the self-referential analogue of an external understanding. This leaves us in no worse position than an external observer, for any being who viewed us from outside would have to face the problem of self-understanding in its own case, to be reasonably secure in its pretensions to understand us or anything else. The aim of objectivity would be to reach a conception of the world, including oneself, which involved one's own point of view not essentially, but only instrumentally, so to speak: so that the form of our understanding would be specific to ourselves, but its content would not be.

The vast majority of additions to what we know do not require any advance in objectivity: they merely add further information at a level that already exists. When someone discovers a previously undetected planet, or the chemical composition of a hormone, or the cause of a disease, or the early influences on a historical figure, he is essentially filling in a framework of understanding that is already given. Even something as fruitful as the discovery of the structure of DNA is in this category. It merely extended the methods of chemistry into genetics. Discoveries like this may be difficult to make, but they do not involve fundamental alterations in the idea of our epistemic relation to the world. They add knowledge without objective advance.

An advance in objectivity requires that already existing forms of understanding should themselves become the object of a new form of understanding, which also takes in the objects of the original forms. This is true of any objective step, even if it does not reach the more ambitious goal of explaining itself. All advances in objectivity subsume our former understanding under a new account of our mental relation to the world.

Consider for example the distinction between primary and secondary qualities, the precondition for the development of modern physics and chemistry. This is a particularly clear example of how we can place ourselves in a new world picture. We realize that our perceptions of external objects depend both on their properties and on ours, and that to explain both their effects on us and their interactions with each other we need to attribute to them fewer types of properties than they may initially appear to have.

Colin McGinn has argued convincingly that this is in the first instance an a priori philosophical discovery, not an empirical scientific one. Things have colors, tastes, and smells in virtue of the way they appear to us: to be red simply *is* to be the sort of thing that looks or would look red to normal human observers in the perceptual circumstances that normally obtain in the actual world. To be square, on the other hand, is an independent property which can be used to explain many things about an object, including how it looks and feels. (McGinn, ch. 7)

Once this is recognized and we consider how the various perceptible properties of objects are to be explained, it becomes clear that the best account of the appearance of colors will not involve the ascription to things of intrinsic color properties that play an ineliminable role in the explanation of the appearances: the way in which the appearances vary with both physical and psychological conditions makes this very implausible. Objective shape and size, on the other hand, enter naturally into an account of variable appearance of shape and size. So much is evident

even if we have only a very rough idea of how as perceivers we are acted upon by the external world—an idea having to do primarily with the type of peripheral impact involved. It is then a short step to the conjecture that the appearances of secondary qualities are caused by other primary qualities of objects, which we can then try to discover.

The pressure to make an objective advance comes, here as elsewhere, from the incapacity of the earlier view of the world to include and explain itself—that is, to explain why things appear to us as they do. This makes us seek a new conception that can explain both the former appearances and the new impression that it itself is true. The hypothesis that objects have intrinsic colors in addition to their primary qualities would conspicuously fail this test, for it provides a poorer explanation of why they appear to have colors, and why those appearances change under internal and external circumstances, than the hypothesis that the primary qualities of objects and their effects on us are responsible for all the appearances.

Consider another example. Not all objective advances have been so widely internalized as this, and some, like general relativity and quantum mechanics, are advances beyond already advanced theories that are not generally accessible. But one huge step beyond common appearance was taken by Einstein with the special theory of relativity. He replaced the familiar idea of unqualified temporal and spatial relations between events, things, and processes by a relativistic conception according to which events are not without qualification simultaneous or successive, objects are not without qualification equal or unequal in size, but only with respect to a frame of reference. What formerly seemed to be an objective conception of absolute space and time was revealed to be a mere appearance, from the perspective of one frame of reference, of a world whose objective description from no frame of reference is not given in a four-dimensional coordinate system of independent spatial and temporal dimensions at all. Instead, events are objectively located in relativistic space-time, whose division into separate spatial and temporal dimensions depends on one's point of view. In this case it was reflection on electrodynamic phenomena rather than ordinary perception that revealed that the appearances had to be transcended. There was also, as with the primary-secondary quality distinction, an important philosophical element in the discovery that absolute simultaneity of spatially separated events was not a well-defined notion, in our ordinary system of concepts.

These examples illustrate the human capacity to escape the limits of the original human situation, not merely by traveling around and seeing

the world from different perspectives, but by ascending to new levels from which we can understand and criticize the general forms of previous perspectives. The step to a new perspective is the product of epistemological insight in each case.

Of course it is also the product in some cases of new observations that can't be accommodated in the old picture. But the satisfactoriness of a new external perspective depends on whether it can place the internal perspective within the world in a way that enables one to occupy both of them simultaneously, with a sense that the external perspective gives access to an objective reality that one's subjective impressions are impressions of. Experience is not the sole foundation of our knowledge of the world, but a place must be found for it as part of the world, however different that world may be from the way it is depicted in experience.

Only objectivity can give meaning to the idea of intellectual progress. We can see this by considering any well-established objective advance, like the examples discussed already, and asking whether it could be reversed. Could a theory which ascribed intrinsic colors, tastes, smells, feels, and sounds to things account for the appearance that these are to be explained as the effects on our senses of primary qualities? Could a theory of absolute space and time explain the appearance that we occupy relativistic space-time? In both cases the answer is no. An objective advance may be superseded by a further objective advance, which reduces it in turn to an appearance. But it is not on the same level as its predecessors, and may well have been essential as a step on the route to its successors.

Still, the fact that objective reality is our goal does not guarantee that our pursuit of it succeeds in being anything more than an exploration and reorganization of the insides of our own minds. On a realist view this always remains a possibility, at least in the abstract, even if one isn't thinking of a specific way in which one might be deceived. A less radical point is that whatever we may have achieved we are only at a passing stage of intellectual development, and much of what we now believe will be overthrown by later discoveries and later theories.

A certain expectation of further advance and occasional retreat is rational: there have been enough cases in which what was once thought a maximally objective conception of reality has been included as appearance in a still more objective conception so that we would be foolish not to expect it to go on. Indeed we should want it to go on, for we are evidently just at the beginning of our trip outward, and what has so far been achieved in the way of self-understanding is minimal.

4. *Evolutionary Epistemology*

Because self-understanding is at the heart of objectivity, the enterprise faces serious obstacles. The pursuit of objective knowledge requires a much more developed conception of the mind in the world than we now possess: a conception which will explain the possibility of objectivity. It requires that we come to understand the operations of our minds from a point of view that is not just our own. This would not be the kind of self-understanding that Kant aimed for, that is, an understanding from within of the forms and limits of all our possible experience and thought (though that would be amazing enough, and there is no reason to suppose that it could be arrived at a priori). What is needed is something even stronger: an explanation of the possibility of objective knowledge of the real world which is itself an instance of objective knowledge of that world and our relation to it. Can there be creatures capable of this sort of self-transcendence? We at least seem to have taken some steps in this direction, though it is not clear how far we can go. But how is even this much possible? In fact, the objective capacity is a complete mystery. While it obviously exists and we can use it, there is no credible explanation of it in terms of anything more basic, and so long as we don't understand it, its results will remain under a cloud.

Some may be tempted to offer or at least to imagine an evolutionary explanation, as is customary these days for everything under the sun. Evolutionary hand waving is an example of the tendency to take a theory which has been successful in one domain and apply it to anything else you can't understand—not even to apply it, but vaguely to imagine such an application. It is also an example of the pervasive and reductive naturalism of our culture. 'Survival value' is now invoked to account for everything from ethics to language. I realize that it is dangerous to enter into discussion of a topic on which one is not an expert, but since these speculations can't be ignored, and since even when they come from professional biologists they are in the nature of obiter dicta, let me try to say something about them.

The Darwinian theory of natural selection, assuming the truth of its historical claims about how organisms develop, is a very partial explanation of why we are as we are. It explains the selection among those organic possibilities that have been generated, but it does not explain the possibilities themselves. It is a diachronic theory which tries to account for the particular path evolution will take through a set of possibilities under given conditions. It may explain why creatures with vision or reason will survive, but it does not explain how vision or reasoning are possible.

These require not diachronic but timeless explanations. The range of biological options over which natural selection can operate is extraordinarily rich but also severely constrained. Even if randomness is a factor in determining which mutation will appear when (and the extent of the randomness is apparently in dispute), the range of genetic possibilities is not itself a random occurrence but a necessary consequence of the natural order. The possibility of minds capable of forming progressively more objective conceptions of reality is not something the theory of natural selection can attempt to explain, since it doesn't explain possibilities at all, but only selection among them.[6]

But even if we take as given the unexplained possibility of objective minds, natural selection doesn't offer a very plausible explanation of their actual existence. In themselves, the advanced intellectual capacities of human beings, unlike many of their anatomical, physiological, perceptual, and more basic cognitive features, are extremely poor candidates for evolutionary explanation, and would in fact be rendered highly suspect by such an explanation. I am not suggesting, as Kant once did (Kant (2), pp. 395–6), that reason has negative survival value and could from that point of view be replaced by instinct. But the capacity to form cosmological and subatomic theories takes us so far from the circumstances in which our ability to think would have had to pass its evolutionary tests that there would be no reason whatever, stemming from the theory of evolution, to rely on it in extension to those subjects. In fact if, per impossibile, we came to believe that our capacity for objective theory were the product of natural selection, that would warrant serious skepticism about its results beyond a very limited and familiar range. An evolutionary explanation of our theorizing faculty would provide absolutely no confirmation of its capacity to get at the truth. Something else must be going on if the process is really taking us toward a truer and more detached understanding of the world.

There is a standard reply to skepticism about evolutionary explanation of the intellect, namely that Darwinian theory doesn't require every feature of an organism to be separately selected for its adaptive value. Some features may be the side effects of others, singly or in combination, that have been so selected, and if they are not harmful they will survive. In the case of the intellect, a common speculation is that rapid enlargement of the human brain occurred through natural selection after the development of an erect posture and the capacity to use tools made brain size

6. Stephen Jay Gould reports that Francis Crick once said to him, "The trouble with you evolutionary biologists is that you are always asking 'why' before you understand 'how' " (Gould (2), p.10).

an advantage. This permitted the acquisition of language and the capacity to reason, which in turn conferred survival value on still larger brains. Then, like an adaptable computer, this complex brain turned out to be able to do all kinds of things it wasn't specifically "selected" to do: study astronomy, compose poetry and music, invent the internal combustion engine and the long-playing record, and prove Gödel's theorem. The great rapidity of civilized cultural evolution requires that the brains which took part in it have been developed to full capacity from its beginning.

Since this is pure speculation, not much can be said about its consistency with the empirical evidence. We know nothing about how the brain performs the functions that permitted our hunter-gatherer ancestors to survive, nor do we know anything about how it performs the functions that have permitted the development and understanding of the mathematics and physics of the past few centuries. So we have no basis for evaluating the suggestion that the properties which were necessary to fit the brain for the first of these purposes turned out to be sufficient for the second as well, and for all the cultural developments that have led to it.

Spinoza gives this description of the process of intellectual evolution:

> As men at first made use of the instruments supplied by nature to accomplish very easy pieces of workmanship, laboriously and imperfectly, and then, when these were finished, wrought other things more difficult with less labour and greater perfection; and so gradually mounted from the simplest operations to the making of tools, and from the making of tools to the making of more complex tools, and fresh feats of workmanship, till they arrived at making, with small expenditure of labour, the vast number of complicated mechanisms which they now possess. So, in like manner, the intellect, by its native strength, makes for itself intellectual instruments, whereby it acquires strength for performing other intellectual operations, and from these operations gets again fresh instruments, or the power of pushing its investigations further, and thus gradually proceeds till it reaches the summit of wisdom. (Spinoza (1), p. 12)

The question is whether not only the physical but the mental capacity needed to make a stone axe automatically brings with it the capacity to take each of the steps that have led from there to the construction of the hydrogen bomb, or whether an enormous excess mental capacity, not explainable by natural selection, was responsible for the generation and spread of the sequence of intellectual instruments that has emerged over the last thirty thousand years. This question is unforgettably posed by

the stunning transformation of bone into spaceship in Stanley Kubrick's *2001*.

I see absolutely no reason to believe that the truth lies with the first alternative. The only reason so many people do believe it is that advanced intellectual capacities clearly exist, and this is the only available candidate for a Darwinian explanation of their existence. So it all rests on the assumption that every noteworthy characteristic of human beings, or of any other organism, must have a Darwinian explanation. But what is the reason to believe that? Even if natural selection explains all adaptive evolution, there may be developments in the history of species that are not specifically adaptive and can't be explained in terms of natural selection.[7] Why not take the development of the human intellect as a probable counterexample to the law that natural selection explains everything, instead of forcing it under the law with improbable speculations unsupported by evidence? We have here one of those powerful reductionist dogmas which seem to be part of the intellectual atmosphere we breathe.

What, I will be asked, is my alternative? Creationism? The answer is that I don't have one, and I don't need one in order to reject all existing proposals as improbable. One should not assume that the truth about this matter has already been conceived of—or hold onto a view just because no one can come up with a better alternative. Belief isn't like action. One doesn't have to believe anything, and to believe nothing is not to believe something.

I don't know what an explanation might be like either of the possibility of objective theorizing or of the actual biological development of creatures capable of it. My sense is that it is antecedently so improbable that the only possible explanation must be that it is in some way necessary. It is not the kind of thing that could be either a brute fact or an accident, any more than the identity of inertial and gravitational mass could be; the universe must have fundamental properties that inevitably give rise through physical and biological evolution to complex organisms capable of generating theories about themselves and it. This is not itself an explanation; it merely expresses a view about one condition which an acceptable explanation should meet: it should show why this had to happen, given the relatively short time since the Big Bang, and not merely that it could have happened—as is attempted by Darwinian proposals. (I think an explanation of the original development of organic life should meet

7. See Gould (1) for details.

the same condition.) There is no reason to expect that we shall ever come up with such an explanation, but we are at such a primitive stage of biological understanding that there is no point in making any predictions.[8]

5. *Rationalism*

One image of self-reconstruction that has appealed to philosophers is Neurath's: that we are like sailors trying to rebuild our ship plank by plank on the high seas. This can be interpreted in more than one way. We might think of ourselves as simply rearranging and perhaps reshaping the planks, making small alterations one at a time, and using the materials we find ready to hand.[9] Such an image may fit the mundane case where knowledge is accumulated gradually and piecemeal, at a given objective level. But if we wish to depict the great objective advances on which real progress depends, we need a different image. Though we may incorporate parts of the original ship in the new one we are about to create, we call up out of ourselves most of the materials from which we will construct it. The place which we occupy for this purpose may be one we could not have reached except on the old ship, but it is really in a new world, and in some sense, I believe, what we find in it is already there. Each of us is a microcosm, and in detaching progressively from our point of view and forming a succession of higher views of ourselves

8. It might be argued that the observation that the universe contains intelligent beings does not have to be explained in terms of fundamental principles which show it to be inevitable, because it has a much simpler explanation: if there were no such beings, there would be no observers and hence no observations. No general inferences can therefore be drawn from their existence. I am not persuaded by this argument. The fact that an observation can be predicted on this sort of ground does not mean that it needn't be explained by other, more fundamental principles as well.

It may be worth mentioning an analogy, the application of the anthropic principle in cosmology. The anthropic principle states that "what we can expect to observe must be restricted by the conditions necessary for our presence as observers" (Carter, p. 291). A special case of this is the strong anthropic principle: "the Universe (and hence the fundamental parameters on which it depends) must be such as to admit the creation of observers within it at some stage" (p. 294). About this Carter says that "even an entirely rigorous prediction based on the *strong* principle will not be completely satisfying from the physicist's point of view since the possibility will remain of finding a deeper underlying theory explaining the relationships that have been predicted" (p. 295). In other words, predictability does not always eliminate the need for explanation.

9. As Neurath puts it, we are "never able to dismantle it in dry-dock and to reconstruct it there out of the best materials" (Neurath, p. 201).

in the world, we are occupying a territory that already exists: taking possession of a latent objective realm, so to speak.

I said earlier that the position to which I am drawn is a form of rationalism. This does not mean that we have innate knowledge of the truth about the world, but it does mean that we have the capacity, not based on experience, to generate hypotheses about what in general the world might possibly be like, and to reject those possibilities that we see could not include ourselves and our experiences. Just as important, we must be able to reject hypotheses which appear initially to be possibilities but are not. The conditions of objectivity that I have been defending lead to the conclusion that the basis of most real knowledge must be a priori and drawn from within ourselves. The role played by particular experience and by the action of the world on us through our individual perspectives can be only selective—though this is a very important factor, which makes the acquisition of such knowledge as we may have importantly subject to luck: the luck of the obervations and data to which we are exposed and the age in which we live. Also important, for possession of the a priori component, are the possibilities and questions that are suggested to us and that we might not have formulated for ourselves—like the boy in Plato's *Meno*.

If the possibilities, or at least some of them, are available a priori to any mind of sufficient complexity, and if the general properties of reality are fairly uniform throughout, then the pursuit of objective knowledge can be expected to lead to gradual convergence from different starting points. But this limit of convergence is not the definition of truth, as Peirce suggests: it is a consequence of the relation between reality and the mind, which in turn must be explained in terms of the kind of part of reality the mind is. Obviously the capacities of different minds, and of different species of mind, differ. But in our case the capacities go far beyond the merely adaptive. A reasonably intelligent human being is capable of grasping, even if it cannot generate on its own, an extraordinary and rich range of conceptual possibilities, as we know from what has been learned already. There is no reason to think our mental capacities mirror reality completely, but I assume we all carry potentially in our heads the possibilities that will be revealed by scientific and other developments over the next few thousand years at least: we just aren't going to be around for the trip—perhaps it should be called the awakening.

This conception of knowledge is in the rationalist tradition, though without the claim that reason provides an indubitable foundation for belief. Even empirical knowledge, or empirical belief, must rest on an a

priori base, and if large conclusions are derived from limited empirical evidence a large burden must be carried by direct a priori formulation and selection of hypotheses if knowledge is to be possible at all.[10]

This accounts for the extremely high ratio of rational to empirical grounds for great theoretical advances like Newton's theory of gravitation or the special and general theories of relativity: even though the empirical predictions of those theories are enormous, they were arrived at on the basis of relatively limited observational data, from which they could not be deduced. And I would maintain that even induction, that staple of empiricism, makes sense only with a rationalist basis. Observed regularities provide reason to believe that they will be repeated only to the extent that they provide evidence of hidden *necessary* connections, which hold timelessly. It is not a matter of assuming that the contingent future will be like the contingent past.

The capacity to imagine new forms of hidden order, and to understand new conceptions created by others, seems to be innate. Just as matter can be arranged to embody a conscious, thinking organism, so some of these organisms can rearrange themselves to embody more and more thorough and objective mental representations of the world that contains them, and this possibility too must exist in advance. Although the procedures of thought by which we progress are not self-guaranteeing, they make sense only if we have a natural capacity for achieving harmony with the world far beyond the range of our particular experiences and surroundings. When we use our minds to think about reality, we are not, I assume, performing an impossible leap from inside ourselves to the world outside. We are developing a relation to the world that is implicit in our mental and physical makeup, and we can do this only if there are facts we do not know which account for the possibility. Our position is problematic so long as we have not even a candidate for such an account.

Descartes tried to provide one, together with grounds for certainty that it was true, by proving the existence of the right sort of God. While he was not successful, the problem remains. To go on unambivalently

10. Both Chomsky and Popper have in very different ways rejected empiricist theories of knowledge and emphasized the incomprehensibility, at present, of our capacities to understand and think about the world. Chomsky in particular has argued that our innate capacity to learn languages is contrary to the empiricist conception of how the mind works. This is one aspect of his general attack on reductionism with respect to the mind. I believe that the scientific gaps between data and conclusions are of much greater importance to the theory of knowledge than the gap between the fragmentary linguistic data of early childhood and the grammar of the language that is learned from it, remarkable as that is. Somehow we call up whole worlds out of our heads, not just languages whose form has presumably evolved in part to suit our ability to learn them.

holding our beliefs once this has been recognized requires that we believe that something—we know not what—is true that plays the role in our relation to the world that Descartes thought was played by God. (Perhaps it would be more accurate to say that Descartes' God is a personification of the fit between ourselves and the world for which we have no explanation but which is necessary for thought to yield knowledge.)

I have no idea what unheard-of property of the natural order this might be. But without something fairly remarkable, human knowledge is unintelligible. My view is rationalist and antiempiricist, not because I believe a firm foundation for our beliefs can be discovered a priori, but because I believe that unless we suppose that they have a basis in something global (rather than just human) of which we are not aware, they make no sense—and they do make sense. A serious rationalist epistemology would have to complete this picture—but our beliefs may rest on such a basis even if we cannot discover it. There is no reason to assume that even if we are so organized as to be capable of partly understanding the world, we can also gain access to these facts about ourselves in a way that will fill the blanks in our understanding.[11]

A theory of reality with pretensions to completeness would have to include a theory of the mind. But this too would be a hypothesis generated by the mind, and would not be self-guaranteeing. The point is made by Stroud with reference to Quine's proposal of naturalized epistemology, which is essentially an empiricist psychological theory of the formation of empirical theories (Stroud, ch. 6). It applies equally to a possible rationalist theory of the mind's capacity for a priori theorizing. But of course we have neither of these theories: we don't even have a hypothesis about our capacity to transcend the phenomena. The idea of a full conception of reality that explains our ability to arrive at it is just a dream.

Nevertheless, it's what we aim toward: a gradual liberation of the dormant objective self, trapped initially behind an individual perspective of

11. It may be that those areas of knowledge that are entirely a priori permit greater access to their sources in us than do other types of knowledge—that we can develop a better understanding of how our thoughts can lead us to the truths of arithmetic than of how they can lead us to the truths of chemistry. It is possible to make discoveries about something a priori if our representation of the thing has so intimate a relation with the thing itself that the properties to be discovered are already buried in the representation. Thus we can think about mathematics because we are able to operate with a system of symbols whose formal properties make it capable of representing the numbers and all their relations. This system can itself be mathematically investigated. To that extent mathematics gives us a partial answer to the question of how the world that it describes can contain beings who will be able to arrive at some of its truths.

human experience. The hope is to develop a detached perspective that can coexist with and comprehend the individual one.

6. *Double Vision*

To summarize, what we can hope to accomplish along these lines is bound to be limited in several ways. First, we are finite beings, and even if each of us possesses a large dormant capacity for objective self-transcendence, our knowledge of the world will always be fragmentary, however much we extend it. Second, since the objective self, though it can escape the human perspective, is still as short-lived as we are, we must assume that its best efforts will soon be superseded. Third, the understanding of the world of which we are intrinsically capable—leaving aside limitations of time and technology—is also likely to be limited. As I shall argue in the next chapter, reality probably extends beyond what we can conceive of. Finally, the development of richer and more powerful objective hypotheses does nothing to rule out the known and unknown skeptical possibilities which are the other aspect of any realist view.

None of this will deter us from the effort to make objective progress so far as our minds, our culture, and our epoch may permit. But there are other dangers in the pursuit of that goal, dangers not of failure but of ambition. These dangers are of three kinds: excessive impersonality, false objectification, and insoluble conflict between subjective and objective conceptions of the same thing.

The first comes from taking too literally the image of the true self trapped in the individual human perspective. This is a compelling image, and many have succumbed to its attractions. If the real me views the world from nowhere, and includes the empirical perspective and particular concerns of TN as merely one of myriad sentient flickers in the world so viewed, then it may seem that I should take as little interest in TN's life and perspective as possible, and perhaps even try to insulate myself from it. But the discovery and awakening of the objective self with its universal character doesn't imply that one is not also a creature with an empirical perspective and individual life. Objective advance produces a split in the self, and as it gradually widens, the problems of integration between the two standpoints become severe, particularly in regard to ethics and personal life. One must arrange somehow to see the world both from nowhere and from here, and to live accordingly.

The second danger, that of false objectification, is one I have already discussed in connection with the philosophy of mind—though it arises

also in other areas. The success of a particular form of objectivity in expanding our grasp of some aspects of reality may tempt us to apply the same methods in areas where they will not work, either because those areas require a new kind of objectivity or because they are in some respect irreducibly subjective. The failure to recognize these limits produces various kinds of objective obstinacy—most notably reductive analyses of one type of thing in terms that are taken from the objective understanding of another. But as I have said, reality is not just objective reality, and objectivity itself is not one thing. The kinds of objective concepts and theories that we have developed so far, mostly to understand the physical world, can be expected to yield only a fragment of the objective understanding that is possible. And the detachment that objectivity requires is bound to leave something behind.

The third problem, that of insoluble subjective-objective conflict, arises when we succeed in constructing an objective conception of something and then don't know what to do with it because it can't be harmoniously combined with the subjective conception we still have of the same thing. Sometimes an internal conception can't acknowledge its own subjectivity and survive, nor can it simply disappear.

Often an objective advance will involve the recognition that some aspects of our previous understanding belong to the realm of appearance. Instead of conceiving the world as full of colored objects, we conceive it as full of objects with primary qualities that affect human vision in certain subjectively understandable ways. The distinction between appearance and objective reality becomes the object of a new, mixed understanding that combines subjective and objective elements and that is based on recognition of the limits of objectivity. Here there is no conflict.[12]

But it may happen that the object of understanding cannot be so cleanly divided. It may happen that something appears to require subjective and objective conceptions that cover the same territory, and that cannot be combined into a single complex but consistent view. This is particularly likely with respect to our understanding of ourselves, and it is at the source of some of the most difficult problems of philosophy, including the problems of personal identity, free will, and the meaning of life. It is also present in the theory of knowledge, where it takes the form of an inability to hold in one's mind simultaneously and in a consistent form the possibility of skepticism and the ordinary beliefs that life is full of.

12. This is McGinn's point; the scientific image doesn't on reflection conflict with the manifest image over secondary qualities.

What should be the relation between the beliefs we form about the world, with their aspirations to objectivity, and the admission that the world might be completely different from the way we think it is, in unimaginable ways? I believe we have no satisfactory way of combining these outlooks. The objective standpoint here produces a split in the self which will not go away, and we either alternate between views or develop a form of double vision.

Double vision is the fate of creatures with a glimpse of the view *sub specie aeternitatis*. When we view ourselves from outside, a naturalistic picture of how we work seems unavoidable. It is clear that our beliefs arise from certain dispositions and experiences which, so far as we know, don't guarantee their truth and are compatible with radical error. The trouble is that we can't fully take on the skepticism that this entails, because we can't cure our appetite for belief, and we can't take on this attitude toward our own beliefs while we're having them. Beliefs are about how things probably are, not just about how they might possibly be, and there is no way of bracketing our ordinary beliefs about the world so that they dovetail neatly with the possibility of skepticism. The thought "I'm a professor at New York University, unless of course I'm a brain in a vat" is not one that can represent my general integrated state of mind.[13]

The problems of free will and personal identity yield similarly unharmonious conclusions. In some respects what we do and what happens to us fits very naturally into an objective picture of the world, on a footing with what other objects and organisms do. Our actions seem to be events with causes and conditions many of which are not our actions. We seem to persist and change through time much as other complex organisms do. But when we take these objective ideas seriously, they appear to threaten and undermine certain fundamental self-conceptions that we find it very difficult to give up.

Earlier I said it was impossible fully to internalize a conception of one's own personal identity that depended on the organic continuity of one's brain. Ordinarily, an objective view of something with a subjective aspect does not require us simply to give up the subjective view, for it

13. There is a further problem. In the course of arriving at a skeptical conclusion, we pass through thoughts to which we do not simultaneously take up a skeptical stance—thoughts about the relation of the brain to experience, for example. These appear in the skeptic's reasoning in unqualified form. In order to draw skeptical conclusions from the objective standpoint, we have to engage in the kind of direct thought about the world that skepticism undermines. This is like the Cartesian circle in reverse: Descartes tried to prove the existence of God by the use of reasoning on which we can rely only if God exists; the skeptic reaches skepticism through thoughts that skepticism makes unthinkable.

can be reduced to the status of an appearance, and can then coexist with the objective view. But in these cases that option seems not to be available. We cannot come to regard our ideas of our own agency or of the purity of our self-identity through time as mere appearances or impressions. That would be equivalent to giving them up. Though our intuitive convictions about these things emerge very much from our own point of view, they have pretensions to describe not just how we appear to ourselves but how we are, in some as yet unspecified sense which appears to conflict with the objective picture of what we are. This problem arises even if the objective picture does not claim to take in everything—for what it willingly omits is only subjective appearance, and that is not good enough. The claims of both the objective and the subjective self seem to be too strong to allow them to live together in harmony.

This problem will reappear in later chapters, but let me mention one further example: Wittgenstein's unacknowledged skepticism about deduction. I believe his view is rightly regarded by Kripke as a form of skepticism because the external account it gives of what is really going on when we apply a formula or a concept to indefinitely many cases—what the apparently infinite reach of meaning really rests on—is not an account we can take on internally. For example we can't think of the correct application of 'plus 2' as being determined by nothing more than the fact that a certain application is natural to those who share our language and form of life, or by anything else of the sort. In employing the concept we must think of it as determining a unique function over infinitely many cases, beyond all our applications and those of our community and independent of them, or else it would not be the concept it is. *Even if Wittgenstein is right*, we can't think of our thoughts this way while we have them. And even in the philosophical act of thinking naturalistically about how language and logic work, we can't take the Wittgensteinian stance toward *those* thoughts, but must think them straight.

I think a view deserves to be called skeptical if it offers an account of ordinary thoughts which cannot be incorporated into those thoughts without destroying them. One may be a skeptic about x no matter how sincerely one protests that one is not denying the existence of x but merely explaining what x really amounts to.[14]

14. See Kripke (2), p. 65.