Methodology and Scientific Realism

A deflationary attitude towards truth is inconsistent with the usual view of it as a deep and vital element of philosophical theory. Consequently the many philosophers who are inclined to give the notion of truth a central role in their reflections on metaphysical, epistemological, and semantic problems must reject the minimalist account of its function. Conversely, those who sympathize with deflationary ideas about truth will not wish to place much theoretical weight on it. They will maintain that philosophy may employ the notion only in its minimalist capacity—that is, as something enabling the formulation of certain generalizations—and that theoretical problems must be resolved without it. The latter point of view is what I will be trying to sustain in the present chapter and in the one immediately following. Here I shall try to show that the realism/anti-realism issue (together with various related questions in the philosophy of science) have nothing at all to do with truth, and that a failure to recognize this fact has stood in the way of clear thinking about those matters. And in the next chapter I shall argue more or less the same point with respect to a range of questions in semantics and in the philosophy of logic.

15. Doesn’t the deflationary perspective—the renunciation of a substantive notion of truth—lead inevitably to relativism: to the idea that there is no such thing as objective correctness?

The claim that truth is not a complex or naturalistic property—that it is ‘unreal’ or ‘insubstantial’, in the sense advocated by minimalism—must not be confused with the idea that truths are unreal, or, in other words, that no sentence, statement, or belief is ever true. The latter view might arise from an extreme form of relativism in which it is supposed that truth is ‘radically perspectival’ or ‘contextual’ or something of the sort. But this kind of theory is not at all affiliated with the minimalist conception of truth. On the contrary, the two philosophical positions tend to be opposed to one another. For it can be precisely the association of the truth predicate with some beefed-up, highly esteemed metaphysical or epistemological property—i.e. the substantiability of truth—that leads to the conclusion that nothing ever quite manages to be absolutely true. And conversely, the minimalist position, in so far as it makes it easy to suppose that every proposition, or its denial, is true, implies that relativism (in at least one popular formulation) is untenable. Thus the ‘insubstantiality’ of truth is in no way tantamount to the nonexistence of truths.¹

16. Nevertheless, isn’t the minimalist perspective in some sense anti-realist? Does it not deny that scientific theories are intended to correspond to a mind-independent world?

Debate over the question ‘What is realism?’ can easily take on the aspect of an empty, pointless, terminological wrangle. One philosopher will identify the position with, say, an aversion to reductionism; another will complain that certain pro-reductionist positions (e.g. that the mind is merely the brain (materialism), that mathematical facts are merely logical facts (logicism)) are not intuitively anti-realistic and that certain positions that are anti-realistic (e.g. that the numbers are a human invention (mathematical intuitionism)) are non-reductionist; the critic may then propose an alternative definition of ‘anti-realism’—say, rejection of the principle that every proposition is either true or false; but this again will fail to satisfy everyone’s intuitions about when to apply the label. Thus the process continues interminably, so that one is left wondering—since after all

¹ An argument that the minimalist conception of truth leads to relativism has been given by Putnam (1981). However, objections that I consider to be conclusive have been levelled against it by Michael Williams (1986).
the words 'realism' and 'anti-realism' are terms of art—whether there is any genuine problem here at all. Wouldn't it be best to distinguish explicitly various senses of 'realism' corresponding to each of the alternative proposals, so we can begin to focus our attention on the real questions: namely, which of these so-called 'realist' positions are correct and which are not?

I think that this tempting point of view is in fact mistaken. Realism and anti-realism are definite and interesting philosophical stances, and the issue of what exactly they are is a substantial one. Our impression to the contrary comes partly from the fact that the answers that are usually suggested bear such little resemblance to one another, and partly from the fact that even with respect to individual philosophical positions (for example, behaviourism and intuitionism) there is no consensus about whether they should be counted as realist or not. But the explanation of all this divergence of opinion, it seems to me, is not that there is no correct definition of realism to be found, but rather that the definitions usually proposed are of completely the wrong sort.

What I have in mind can be brought out by reviewing some well-known facts about how natural kinds—for example, *diseases*—are properly defined. Notorious difficulties arise if one tries to characterize a disease in terms of observable symptoms, for there will always be some that are not manifest in a few people who none the less have the disease, and other characteristic conditions that sometimes occur in the absence of the disease. The familiar moral is that the right way to specify the criterion for having a disease is to identify the underlying causes of its symptoms, rather than the symptoms themselves. It seems to me that this moral applies pretty well to our questions about the nature of the realism/anti-realism issue. What accounts for the endless squabbling about it is that we have been focusing our attention on the symptoms of realism and anti-realism. Not surprisingly, no definition in those terms can work. What we must do instead is think about what it is that leads people to adopt the positions we are inclined to regard as realist or anti-realist. Thus we will see what the basic conflict between realism and anti-realism really is. And the positions that we intuitively classify as realist or anti-realist—e.g. that physical objects are constructs from experience (phenomenalism), that electrons are fictional entities (instrumentalism), etc.—will qualify as such in virtue of being adopted as a consequence of taking one side or the other on the basic issue. Notice that this analysis of the situation will immediately account for the divergence of opinion over whether certain specific theories, such as behaviourism and intuitionism, are anti-realist or not. As in the case of a disease, where a given condition may in some cases be a symptom and in another case not, a given philosophical thesis will be an anti-realist move in the case of those philosophers who embrace it for certain reasons, but not for those whose motives are quite different. Thus we might distinguish, say, between a 'realist' behaviourist and an 'anti-realist' behaviourist: both have exactly the same view about the reducibility of mental facts to behaviour, but they diverge in their reasons for holding it.

What, then, is the essence of realism? The answer is very simple. There is a question about how it is possible for us to know of the existence of certain facts given our ordinary conception of their nature. This is because there can seem to be a tension in ordinary thinking between the metaphysical autonomy of the world (its independence of us) and its epistemological accessibility (our capacity to find out about it). The difference between a realist and an anti-realist, in a nutshell, is that the realist decides on reflection that there is actually no difficulty here—so our ordinary ideas about what we know can stand; whereas the anti-realist decides, on the contrary, that the alleged conflict is genuine and that it has certain ramifications for what we can take ourselves to know. The alternative symptoms of anti-realism are alternative views about what these ramifications are—alternative modifications of our naive view of the world and our capacity to comprehend it. Thus it is not unusual for an anti-realist with respect to some domain to embrace one of the following strategies:

1. Deny that there are any facts of the sort at issue (e.g. formalism, instrumentalism, emotivism, relativism, non-factualism);
2. Deny that we have the capacity to know such facts (e.g. scepticism, constructive empiricism, error theory);
3. Reduce the facts in question to other facts whose epistemological status seems unproblematic (e.g. phenomenalism, behaviourism, logicism).

The central point, once again, is that none of these doctrines, nor any collection of them, is either necessary or sufficient for anti realism. Rather, anti-realism is the view that our common-sense
conception of what we know is incoherent; the supposed character of facts of a certain type cannot be reconciled with our capacity to discover them. It is in response to this view that one or another of the above doctrines may well be espoused and in such case the adoption of the doctrine qualifies as an anti-realist move.

According to this way of thinking, any position whatsoever might count as an anti-realist move for some philosopher, providing that this philosopher regards the position as the proper solution to the anti-realist dilemma. Thus the class of ‘possible anti-realist positions’ (like the class of ‘possible symptoms of diabetes’) is completely uninteresting. What is of interest, however, is something we might call the class of ‘natural anti-realist positions’: that is, positions which really would remove the alleged tension in our naive world view. In other words, it is worth distinguishing, from amongst the more or less irrelevant things an anti-realist might be inclined to say, those positions that really would, if they could be adequately sustained, address the alleged dilemma.

The three strategies just mentioned clearly have this character: they are natural anti-realist positions. However, what is glaringly absent from this group is any particular thesis about the nature of truth. This is not of course to deny that someone might, as a matter of biographical fact, feel forced into some account of truth by the anti-realist dilemma. My claim, rather, is that any such response would be irrational. If the dilemma is real, then no theory of truth could help to resolve it.

17. But this conclusion is extremely counterintuitive. It seems obvious that the nature of truth bears directly on the structure of reality and the conditions for comprehending it. Surely, ‘truth’ and ‘reality’ are semantically inextricable from one another; so how could one’s position in the realism debate be divorced from one’s conception of truth?

The term ‘realism’ is an over-used, under-constrained piece of philosophical jargon, and one can no doubt invent senses of it such that the minimalist approach qualifies either as ‘realist’ or ‘anti-realist’. However, the substantial question here, as we have just seen, con-
cerns the relation, if any, between our conception of truth and the justifiability of believing in facts that exist independently of thought or experience. And there is no relation—or so I shall argue. On the contrary, a significant source of confusion in the debates about scientific realism is the tendency to assume that the problem of truth is fundamentally involved.2

Anti-realism, as we have seen, consists in a perceived tension between the realist’s twin, common-sense commitments to credibility and autonomy. Some anti-realist philosophers have supposed that since the facts are independent of experience they are non-existent, or at least epistemologically inaccessible to us. Thus we arrive at the sort of instrumentalism or theoretical scepticism advocated, for example, by Duhem (1954), Popper (1962), and van Fraassen (1980). Other philosophers have supposed, conversely, that since the facts are verifiable they must reduce to observation. Thus we get the sort of reductive empiricism characteristic of phenomenalism and the Vienna Circle. But none of these natural anti-realist positions is in any way affiliated with the minimalist conception of truth. In the first place, minimalism gives no reason to think that theories are constructions out of data, and is quite at home with the holistic considerations that have led most philosophers to reject that aspect of logical positivism. Secondly, it is perfectly consistent with the minimal account of truth to suppose that the scientific method provides us with theories that we should believe to be true and not merely observationally adequate. According to the deflationary picture, believing that a theory is true is a trivial step beyond believing the theory; and the justifiability of this attitude is certainly not precluded by minimalism.3

Not only is the minimalist conception of truth quite neutral with respect to the two central aspects of realism (namely, the questions of justified belief and empirical reducibility), but the same can be said of alternative conceptions. As we shall now see, the choice of a theory of truth is orthogonal to the issues surrounding realism. The

2 The independence of questions about truth from the traditional issues of realism was urged by Tarski (1943/4), and has been emphasized by Michael Devitt (1984). For further discussion see Horwich, 1996.

3 In support of the anti-sceptical component of realism I have argued elsewhere (1991) that there is really no difference between believing a total theory and the apparently less-committed attitude of instrumental acceptance.
theory of truth can have no definite implications for either the epistemological or the semantic component of the problem.

Consider, for example, the constructivist account, which identifies truth with a kind of demonstrability or verifiability. There is an inclination to suppose that this conception of truth immediately entails the falsity of certain forms of scepticism, and that it thereby supports the epistemological aspect of realism. At the same time it is also thought that the meanings of sentences would be given by their ‘truth conditions’ (in the constructivist sense); and so it seems that the content of a claim such as

(4) There are electrons
could then be nothing more than

(5) ‘There are electrons’ is demonstrable.

Thus the autonomy of theoretical facts would be lost, and we would have semantic anti-realism.

But both of these arguments are fallacious. In order to combat scepticism regarding some theory, \( T \), we must be able to argue (in the face of the underdetermination of theory by all possible data) that we are justified in believing \( T \). Constructivism (according to Peirce (1932/3)) tells us that we can infer

(6) \( T \) is true
from the premise

(7) \( T \) will eventually be demonstrated (i.e. verified) in the limit of scientific investigation.

In Putnam’s (1981) version of the doctrine, the premise should be

(8) \( T \) would be demonstrated in the course of an ideal inquiry.

However, it is not at all obvious, from the sceptic’s viewpoint, that we are entitled to believe either of these premises. Moreover, even if that source of scepticism were removed, it would still be unclear why a justified belief that \( T \) is true should carry with it the justification to believe \( T \). No doubt a minimalistic can assume this; for he regards the equivalence of such beliefs is as fundamental. But a constructivist, on the contrary, defines truth in terms of demonstrability. For him, the equivalence schema is a substantive claim that must be supported on the basis of this fundamental assumption about truth.

And the possibility of such an argument is precisely what the sceptic will deny. Thus constructivism gives no easy proof of the ordinary claims to knowledge constitutive of scientific realism.

Nor does it amount to a form of anti-realism, as many writers, following Dummett (1977), have assumed. There is a tendency to confuse the following three theses:

(9) The meaning of ‘\( p \)’ consists in the fact that ‘\( p \)’ is regarded as demonstrated in such and such circumstances;

(10) ‘\( \neg p \)’ is true means ‘\( \neg p \)’ is demonstrable’;

and

(11) ‘\( p \)’ means ‘\( p \)’ is demonstrable’.

The final thesis evidently conflicts with realism; for it reduces facts about external reality to facts about our thought and experience. However, constructivism gives us the right to nothing more than (10), and arguably (9). And these premises provide no basis for denying that scientific theories describe a mind-independent reality.4

A second account of truth with merely apparent implications for realism is the view that truth is a primitive, non-epistemic property that is grasped independently of the equivalence schema. This view seems to wear on its face the radical autonomy of theoretical facts. And, as a consequence, scepticism can appear to be unavoidable. For if the property of truth is primitive and wholly unexplainable, then we can surely have no reason to suppose that the propositions we regard as confirmed tend to have this property. But, once again, these attempts to link the theory of truth with realist and anti-realist theses are misconceived. For the meaning of the word ‘true’ is one thing, and the meanings of theoretical terms like ‘electron’ and ‘super-ego’ are quite separate. Whatever we say about ‘true’ cannot determine our view on the question of whether our theoretical terminology is reducible to observational terminology. Similarly, however mysterious and inaccessible we think the property of truth—however hard we suppose it is to assess ‘\( T \) is true’—we will not necessarily be saddled with scepticism; for we need not also

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4 Putnam (1983: 280) appears to go wrong in this way where he argues that anyone who adopts the combination of a redundancy theory of truth and an assertibility condition conception of meaning will is ‘perilously close to being a solipsist of the present instant’.
suppose that the property of (say) being an electron is mysterious and inaccessible; there need be no scepticism about T itself. As before, the essential point is that any theory that explains truth independently of the equivalence schema, loses the right to assume without further ado that the schema holds. Therefore, relative to the conception of truth in question, problems regarding the justification of 'T is true' are not automatically linked with problems regarding the justification of T.

18. If, as the minimal theory implies, 'truth' is not defined as the product of ideal inquiry, why should we believe that an ideal inquiry would provide the truth?

To regard a certain inquiry as ideal is to suppose that one should not question its outcome. So if an inquiry into whether or not there is life on Mars yields the result that there isn't, and if the inquiry is taken to be ideal, then we should be absolutely confident that there is no life on Mars. Moreover, given the equivalence schema, one should also be confident in the truth of the proposition that there is no life on Mars. Similarly, one should believe of any ideal inquiry that it provides the truth. This is a trivial consequence of the minimal theory and the meaning of 'ideal inquiry'. Therefore constructivism is unmotivated; for what it feels the need to guarantee by definition may in fact be derived from the minimal theory.

Notice that there is no presumption here that every hypothesis is susceptible to some idealized inquiry. Therefore, although we have grounds for the schematic thesis

(12) If ⟨p⟩ is the product of an ideal inquiry, then ⟨p⟩ is true,

the converse claim—and, a fortiori, the identification of truth with idealized verification—has not been supported. Indeed, this identification—the constructivist theory of truth—greatly overesti-

mates our epistemological power. For there are truths beyond the reach of even an ideal investigation. Consider the phenomenon of vagueness (e.g. 'is bald' applied to a borderline case); or underdetermination of theory by data; or sentences with assertibility conditions that don't allow for conclusive verification (e.g. 'the probability that drug X will cure disease Y is 0.3'). Any of these phenomena might involve a proposition which is such that no ideal investigation would engender either its assertion or its denial. In that case we have

(13) It is not the case that ⟨p⟩ is verifiable and it is not the case that ⟨¬p⟩ is verifiable.

But then, according to the constructivist's definition of truth, we can infer

(14) It is not the case that ⟨p⟩ is true and it is not the case that ⟨¬p⟩ is true.

And by the equivalence principle,

(15) p ⇔ ⟨p⟩ is true,

we get

(16) ¬p and ¬p,

a contradiction! Thus not only is constructivism unmotivated (i.e. not needed to account for whatever correlation exists between truth and verification), it is extensionally false since it cannot acknowledge the existence of truths that are not conclusively demonstrable. One might try to argue, in response, that given a sufficiently pumped-up construal of 'ideal inquiry', there is really no need to acknowledge unverifiable truths. For it could be supposed that for every proposition, including the problematic cases just mentioned, a sufficiently ideal investigation would decide its truth. But although the constructivist principle may be protected against counterexample by this manoeuvre, it will then be even less appropriate than before to regard it as our basic theory of truth. For the notion of 'sufficiently ideal inquiry' will now be one that is most naturally explicated in terms of the concept of truth. Thus the constructivist principle, once it is cast into a plausible form, clearly becomes something to be derived

5 In the terminology of Putnam (1981), we are here rebutting the 'metaphysical realist' thesis that 'truth is radically non-epistemic'. Fine; but this does not mean that we agree to incorporate epistemic ideas into the very notion of truth. Peter van Inwagen (1988) points out in a similar vein that Putnam's argument that 'a fair amount of what we believe must be true' also does not imply that truth is an epistemic concept.
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from the minimal theory of truth, and not to be taken as explanatorily basic.

19. How is it possible, given the minimal theory, for truth to be something of intrinsic value, desirable independently of its practical utility?

To value truth is, very roughly speaking, to wish for satisfaction of the schema 'p if I believe p', and therefore to be committed to the techniques of investigation that will apparently achieve this result. To value truth for its own sake is to desire it to some extent regardless of its compatibility with other goals. Such a value may be ethical or aesthetic, or it may be something one simply wants. Which of these alternative possibilities is correct is left open by the minimal theory, as is the possibility that truth not be valued for its own sake.

It might be thought that if truth is intrinsically valuable, then minimalism is in trouble, since it surely lacks the resources to explain that value. But this criticism is unjust. For the difficulty that attaches to explaining why true belief is intrinsically good is no more or less than the difficulty of explaining, for any other particular thing (e.g. kindness, happiness, etc.), why it is intrinsically good. The problem stems from our failure to understand the concept of intrinsic goodness, rather than from our adoption of the minimalist conception of truth. More specifically, in so far as we don’t know what it is for something to possess the quality of intrinsic goodness, no explanation of why truth possesses it will suggest itself, regardless of which theory of truth is adopted. On the other hand, if some account of intrinsic goodness is assumed, then it is far from obvious that a minimalistically acceptable explanation of why truth has that quality could not be based upon the assumed account. Consider, for example, an analysis of ‘being intrinsically good’ roughly along the lines of ‘being normally conducive to human welfare’. On the basis of this sort of theory the minimalistic account of truth’s pragmatic value (given in response to Question 11) might well be developed into an account of its intrinsic value. Note that such an account would not undermine the intrinsicality of the value. For to recognize that truth is valuable ‘for its own sake’—i.e. to suppose that truth is good even in those cases where it will have no practical benefits—is not to suppose that the explanation of this value is independent of the normal advantages of truth.

20. How can minimalism accommodate the idea of science progressing towards the truth?

It suffices to imagine a temporal sequence of total theories \(T(1), T(2), \ldots, T(k), \ldots, T(\text{final})\), becoming gradually (but not necessarily monotonically) more similar to \(T(\text{final})\)—where \(T(\text{final})\) is true. \(T(\text{final})\) is a conjunction of unknown and presently inexpressible propositions. However, as we saw in the answer to Question 2, this is no obstacle to applying the truth predicate. The notion of ‘theoretical similarity’ remains to be explained; but there is no reason to expect that this can or should be done with a high degree of precision. We can get by with our ordinary crude intuitions of the extent to which two bodies of claims are similar to one another. Of course, in order to make these comparisons it is necessary that the theory formulations be to a fair degree intertranslatable (or ‘commensurable’ in Kuhn’s terminology (Kuhn, 1962)). I have not tried to show that this would be so. However, I am not arguing here that there actually exists progress in science; but only that a minimalist conception of truth does not stand in the way of such a thesis.

6 This way of articulating what it is to value truth involves a couple of oversimplifications. First, it suggests that we wish to believe every true proposition; whereas, in fact, the truth values of most of them are of no interest to us. And second, it does not allow for degrees of belief. Really, what we want is to ‘minimize’, in a certain sense, the error in our plausibility judgements. If these are represented by numbers between 0 and 1, then what we want is to minimize the square difference between the probability assigned to each proposition \((p)\), and either 1 (if \((p)\) is true) or 0 (if \((p)\) is false). See Horwich, 1982 for discussion of this matter, together with an argument that does not consider the acquisition of new data.

7 Bernard Williams (1996) expresses scepticism about minimalism on these grounds.
21. From the perspective of the minimalist conception of truth it is impossible to produce an adequate justification of scientific methods. (Friedman, 1979)

An argument that our ways of acquiring beliefs take us in the direction of truth might proceed on the basis of assumptions that are themselves the results of methods we are trying to justify. That is to say, an explanation of the fact that a certain scientific method $M$ is reliable might proceed from premises of which some are believed as a consequence of employing $M$ itself. According to Michael Friedman, this sort of derivation will sometimes constitute a justification of the method $M$. He argues that—given a sufficiently substantive conception of truth—the circularity that is evidently involved need not be vicious. It need not render the derivation so easy to provide that it isn't worth having. After all, he says, there can be no prior guarantee that the products of $M$ will not suggest a theory that implies $M$'s unreliability. Therefore, it can be a pleasantly surprising and epistemologically significant fact regarding $M$ if it turns out to be demonstrably reliable—even if the demonstration employs the results of $M$ itself.

Friedman's objection to deflationism is that, from the perspective of such an insubstantive conception of truth, it would be a trivial matter (available regardless of what one's beliefs and methods actually are) to produce demonstrations of reliability. As a consequence, these demonstrations would be quite devoid of explanatory or epistemological importance, and we would be left with no grounds for confidence in the reliability of scientific inquiry.

He reasons as follows. Suppose

\[(1) \text{ Method } M \text{ has engendered beliefs } p_1, p_2, \ldots, \text{ and } p_n.\]

In order to derive the reliability of $M$ it suffices to combine premise (17) and the additional premises, $p_1, p_2, \ldots, \text{ and } p_n$, that were obtained from $M$. From these additional premises (and the equivalence schema) we infer that

possibly endless sequence of total theories tend to contain a greater number of roughly true, basic theoretical claims than earlier members; and (c) that most members of the sequence are such that the earlier members tend to be increasingly theoretically similar to it.

(18) 'P1' is true,
'P2' is true,
\[\ldots\]
and 'Pn' is true.

And then, from premise (17), we get the result that $M$ engenders true beliefs.

This pseudo-explanation is indeed worthless and provides no support whatsoever for method $M$. But before casting aspersions on minimalism we should consider a series of further questions:

(19) Does minimalism play any role in the above pseudo-explanation?

(20) Could there not be—consistent with minimalism—a more substantive demonstration of $M$'s reliability?

(21) Even from the perspective of a non-minimalist theory of truth, could there be a telling demonstration of $M$'s reliability?

If the answers to these questions were, respectively, Yes, No, and Yes, then we might indeed have to concede that minimalism has unwelcome epistemological consequences. But in fact I believe that the answer to all three questions is No. In the first place, the above pseudo-justification relies merely on the equivalences that are common to all reasonable accounts of truth. Minimalism—the thesis that such biconditionals exhaust the theory of truth—plays no role and cannot be blamed. Secondly, the reliability of certain methods way well be demonstrable on the assumption of facts discovered by other methods—but their reliability would then be at issue. Eventually the question would arise as to whether some method (or collection of methods) is capable of justifying itself in the manner that Friedman proposes. And it seems to me that, regardless of one’s theory of truth, no such justification can be given.

Here I am questioning whether it really is possible for science to undermine itself in a thoroughgoing way. I would suggest that the circular procedure envisaged by Friedman could not go badly wrong; and that this has nothing to do with the account of truth that is employed. I am not denying that the theories resulting from method $M$ might fail to provide an explanation of $M$'s reliability.
For perhaps further theories are needed; or perhaps the reliability of $M$ is extremely hard to explain. What I question is that the theories resulting from $M$ might imply that $M$ is not reliable. Consequently, since I agree that something is supported by its successful predictions only to the extent that they might have been mistaken, I also question whether the success of Friedman’s circular explanatory procedure could constitute any sort of justification for relying on $M$.\footnote{Perhaps Friedman’s concern is merely with the explanation of $M$’s success, and not with providing reasons for confidence in it. But this interpretation is hard to reconcile with various facts: (1) that no reason is given for thinking that a non-trivial, minimalistically acceptable explanation of $M$’s reliability cannot be found; (2) that it is thought necessary to maintain that $M$ might undermine itself; and (3) that it is thought necessary to have a conception of truth according to which it is conceivable that most of our beliefs are false.}

In order to motivate this scepticism, let me consider a couple of examples. Suppose that, on the basis of observational beliefs $O_1$, $O_2$, \ldots, and $O_n$, we were to postulate a theory $T$ that entails that our methods of observation were very unreliable. In that case we would have a theory $T$ that, on the one hand, is confirmed by the fact that it entails $O_1$, $O_2$, \ldots, and $O_n$; yet, on the other hand, entails that a high proportion of $O_1$, $O_2$, \ldots, and $O_n$ are false. Therefore $T$ would have to be internally inconsistent, and we shouldn’t have postulated it in the first place. Similarly, suppose that our theory $T^*$, justified by induction, entails that inductive inference is unreliable. In other words:

\[(22) \quad T^* \rightarrow \text{Although data have conformed to } T^* \text{ in the past, they will not conform to } T^* \text{ in the future.}\]

Again, such a theory is internally inconsistent and should not have been taken seriously in the first place.

Thus there are limits to the extent that science, rationally pursued, can invalidate itself. But this has nothing to do with the nature of truth and, in particular, is not a consequence of minimalism. Friedman suggests, on the contrary, that a naturalistic (causal) theory of truth would leave more room for scientific self-criticism and self-validation, for he supposes that it would open up the possibility that most of the beliefs we regard as verified will turn out not to have the naturalistic property of truth. But this is an illusion. If there were such a property—a naturalistic reduction of truth—it could be recognized as such only by means of the assumption that it does tend to be present in circumstances that we regard as instances of verification. If we don’t impose this constraint then we violate not merely the minimal theory of truth, but any theory that respects the equivalence of ‘$p$’ and ‘$(p)$ is true’. Thus no remotely plausible account of truth could make it conceivable that our beliefs are predominantly false and our methods of arriving at them unreliable. The limited applicability of Friedman’s epistemological strategy will not be expanded by rejecting the minimal theory.\footnote{For some further criticisms of Friedman’s line of thought see Williams, 1986.}

Having attempted in earlier chapters to make clear and plausible the minimalist point of view, I have here begun to explore its philosophical implications, specifically with regard to the debate over realism. Not surprisingly, what I have tried to show is that our notion of truth does not occupy the central theoretical position that philosophers often assume it must occupy. Indeed, many problems are exacerbated by the conviction that truth is essentially involved and that their solutions depend on finding out more about its underlying nature. We have seen on the contrary that in so far as the notion of truth is properly employed in the philosophy of science it displays no more than its minimalistic function. And in the next chapter I argue the same point with respect to a broad range of semantic questions. I shall take up (a) the nature of understanding, (b) the basis of logic, (c) empty names, (d) vagueness, and (e) the status of ethical assertion; and I shall indicate in each case how the problems becomes much simpler once it is acknowledged that the concept of truth should not be relied on to solve them.