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My aim in this paper is to defend a Quinean form of naturalism in epistemology. This defense will consist in a criticism of certain more or less well-known objections to such a naturalism. Most of those who object to W. V. Quine’s project would insist that it leaves out certain central topics of traditional epistemology that should not be left out. By contrast, I accept what I take to be Quine’s claim, viz. that naturalized epistemology preserves everything worthwhile within traditional epistemology, and that there are certain projects within traditional epistemology that should be given up because they are impossible or illegitimate. In particular, it is impossible to validate or justify our theory of the world by deriving it, by self-evident or certain steps, from self-evident or certain foundations.

Epistemology is the theory of knowledge, and knowledge is justified true belief. However, justification and belief come in degrees, and we may wonder how much justification and belief are required for knowledge. Following Quine, I shall set this problem aside (Quine 1987, 109). I shall concentrate on belief and justification. Nothing important seems to be lost by such a move. An exact definition of knowledge is not essential for epistemology.

If we agree with Quine, Hume and others that scientific theories cannot be certified in the sense that would require derivation of the theories by absolutely certain steps from absolutely certain premises, we may still believe that some theories can be supported by evidence, and that many of our beliefs about the world can be justified, to some significant degree. Accordingly, the main problems of epistemology have to do with the ways in which our theories and beliefs about the world are related to evidence. How do we acquire our beliefs about the world, and to what extent, and how, can they be justified or supported by evidence? These are the main problems of epistemology and—contrary to what is sometimes supposed—they are also the main problems of a naturalized epistemology.
Naturalism

There are different kinds of naturalism. Ontological naturalism says that only natural entities exist; there is nothing supernatural. Epistemological naturalism is the view that belief and evidence are natural phenomena that should be studied as other natural phenomena, i.e. by ordinary scientific methods. To explain how knowledge is possible—a classical aim of epistemology—is to explain how it results from human interactions with the natural world.

For Quine, naturalism in epistemology implies that we should start from our current theory of nature when we try to solve the problems of epistemology. Consequently, epistemology can be regarded as “contained in natural science” (Quine 1969, 83), but natural science should then be taken in a wide sense, including such disciplines as physiology, neurology, and evolutionary genetics, but also psychology, sociology, psycholinguistics, history of science, and logical analysis. The important point is that in studying certain natural phenomena—beliefs, evidence, etc.—we should make use of, and try to fit those phenomena into, our overall theory of the world. In particular, science should not be based upon something outside science, such as a “first philosophy.” Quine puts the point as follows: “We are after an understanding of science as an institution or process in the world, and we do not intend that understanding to be any better than the science which is its object. This attitude is indeed one that Neurath was already urging in Vienna Circle days, with his parable of the mariner who has to rebuild his boat while staying afloat in it” (Quine 1969, 84).

In other words, naturalism “sees natural science as an inquiry into reality, fallible and corrigeble but not answerable to any supra-scientific tribunal, and not in need of any justification beyond observation and the hypothetico-deductive method” (Quine 1981, 72).

Naturalism in epistemology need not require naturalism in ontology. Whether or not it does depends upon what is meant by “natural” entities. Sets, for example, are not “natural” in the sense that they “exist in the causal order of nature,” but they are “natural” in the sense that they are referred to or quantified over in our theory of nature. In any case, Quine is quite prepared to accept the existence of sets. In general, epistemological naturalists accept the existence of abstract entities to the extent that these are accepted in science.
Apriority

Quine is an empiricist. This may suggest that, for him, all knowledge is a posteriori. It is indeed often supposed that naturalism is hostile to a priori justification of belief. For example, Ronald Giere takes this to be a defining characteristic of naturalized epistemology. He writes (2000, 308): “Epistemologically, naturalism implies the rejection of all forms of a priori knowledge, including that of higher-level principles of epistemic validation.” Similarly, Laurence BonJour claims that Quine repudiates the concept of a priori justification altogether.  

However, to the best of my knowledge, if ‘a priori’ means “prior to or independent of experience,” there is no explicit repudiation of a priori justification in Quine’s work. And it is hard to see why such repudiation should be implied by naturalism. Rather, epistemological naturalism can be expected to tolerate a priori justification to the extent that this is tolerated in science. Now, for example, it seems that mathematical proofs and thought experiments are sometimes used to justify scientific claims. Hence, it would be premature to repudiate a priori justification in science.

On the other hand, if ‘a priori’ is taken to imply infallibility, it would have no place in Quinean naturalism. Quine believes that no element in our total theory of the world is immune to revision.

For Quine, a set of scientific statements is testable if it implies observational statements—so-called synthetic observation categoricals. These can in turn be checked by observation. Single theoretical statements are seldom testable in isolation, but they can contribute to the testability of a set of statements. To this extent, they have an a posteriori character. But Quine points out that scientific statements may be accepted even though they do not contribute to testability in this way. He writes: “Much that is accepted as true or plausible even in the hard sciences, I expect, is accepted without thought of its joining forces with other plausible hypotheses to form a testable set. Such acceptations may be prompted by symmetries and analogies, or as welcome unifying links in the structure of the theory. […] Having reasonable grounds is one thing, and implying an observation categorical is another” (Quine 1995, 49). This suggests that Quine would regard some scientific statements as justified a priori.
Objection 1: Normativity

Let us now consider some objections to naturalism in epistemology. First, it might be held that epistemology is partly normative—it should tell us what we ought to believe—whereas science, on the contrary, is purely descriptive. Consequently, science cannot tell us what we ought to believe. An epistemology based on or continuous with science—such as Quine’s naturalized epistemology—is therefore unable to perform one of epistemology’s main tasks.

An objection of this kind has been put forward, for example, by Jaegwon Kim in a well-known paper (1994, 33). Kim claims that a main task of Western epistemology since the days of Descartes, Locke and Hume is to “identify the criteria by which we ought to regulate acceptance and rejection of beliefs” (1994, 33; my italics). He says “that justification is a central concept of our epistemological tradition, that justification, as it is understood in this tradition, is a normative concept, and in consequence that epistemology itself is a normative inquiry whose principal aim is a systematic study of the conditions of justified belief” (1994, 35). And indeed: “Epistemology is a normative discipline as much as, and in the same sense as, normative ethics” (1994, 35).

Against this objection, I would argue along the following lines.

1. First, it is not so clear that the classical epistemologists in the Western tradition tried to formulate “criteria by which we ought to regulate acceptance and rejection of beliefs.” For example, Descartes does not use terms like ‘ought’ very often, and when he does it is seldom if ever clear that he wants to express a normative criterion of belief acceptance or belief rejection. He occasionally uses sentences like the following: “I ought not the less carefully to refrain from giving credence to these opinions [that I formerly believed to be true] than to that which is manifestly false, if I desire to arrive at any certainty [in the sciences]” (Haldane & Ross 1972, 148). But this is hardly normative, in a sense that makes it foreign to science, for it seems merely to say that something is a means to something else. Or, even more to the point, it seems to say that Descartes’ earlier opinions were not certain. This is not normative.

Similarly with Hume. Surely, his theory of knowledge is primarily psychological and naturalistic. To the extent that it contains “normative” advice, this too seems to have a means-end character, or else it is a rhetorical way of saying something that could also have been formulated in purely descriptive terms. For example, when he says that we should commit to the flames those books in our libraries that contain neither “abstract reasoning concerning quantity or number” nor “experimental reasoning concerning
matter of fact and existence”, this is just a way of describing the semantic properties of those books. It is at least doubtful whether anything really normative is going on.

(2) Besides, even if the classical epistemologists sometimes did express normative views concerning beliefs, it may be held that such views are moral rather than epistemological.

Consider, for example, Hume’s statement that “in our reasonings concerning matters of fact there are all imaginable degrees of assurance, from the highest certainty to the lowest species of moral evidence. A wise man, therefore, proportions his belief to the evidence” (Hume 1975, Section X, Part I). We may refer to the principle expressed here as “the principle of proportionality.” Is it a normative principle? Is it equivalent to saying that we ought to proportion our belief to the evidence? And if so, is the principle moral or epistemological?

Some philosophers may say that it is analytically true. If so, it is not normative in the sense that it tells us what to believe. Others may say that it is equivalent to the following: 'If you want to be a wise man, you ought to proportion your belief to the evidence’, which means much the same as ‘Proportioning your belief to the evidence is a means to being a wise man’. The latter formulation seems descriptive rather than normative.

But suppose the principle says that we ought to proportion our belief to the evidence. This may be regarded as a normative statement. However, it seems that such a statement would be part of, or derivable from ethics. Ethics tells us what to do, and believing something to a certain degree is something that we do. In fact, Kim himself comes close to admitting this. He says: “If we consider believing or accepting a proposition to be an ‘action’ in an appropriate sense, belief justification would then be a special case of justification of action, which in its broadest terms is the central concern of normative ethics” (Kim 1994, 35).

Of course, Kim may reply that ethics tells us what to do from the moral point of view, whereas epistemology tells us what to do from the epistemic point of view (Kim 1994, 35). But if so, it seems that neither ethics nor epistemology is normative, for neither tells us what to do or what to believe. They only tell us what to do relative to something. This is not normative. Rather, such statements are descriptions of normative systems or of possible aims.

(3) One may wonder whether there is a normative problem about beliefs at all. Do we have sufficient control over our beliefs for norms about them to make sense? If I ought to believe that p, it seems that it must be the case that I can believe that p. ‘Ought’ implies ‘can’, as the saying goes.
As we have seen, Kim seems to take beliefs to be actions, but Quine says that beliefs are dispositions rather than voluntary activities (1987, 19). However, for the sake of argument, let us assume that we have sufficient control over many of our beliefs. We can at least try to believe something or to get rid of a belief. And if we ought to proportion our belief to the evidence, we can try to find further evidence (e.g., by reading the relevant literature or by setting up an experiment). So let us agree that there can be norms related to beliefs. But, as I argued above, such norms would be ethical. They are not part of epistemology.

(4) Kim’s main reason for claiming that epistemology is normative is not primarily historical. Rather, his main point is that “justification” is a normative concept. His argument for this claim is as follows: “But justification manifestly is normative. If a belief is justified for us, then it is permissible and reasonable, from the epistemic point of view, for us to hold it, and it would be epistemically irresponsible to hold beliefs that contradict it” (Kim 1994, 35). 

In my view, this is not a good argument. Consider the following principles, the first of which is the one used by Kim:

If a belief is justified, then it is permissible and reasonable, from the epistemic point of view, for us to hold it.

If a belief is true, then it is permissible and reasonable, from the ontological point of view, for us to hold it.

If a belief is pleasant, then it is permissible and reasonable, from the hedonistic point of view, for us to hold it.

If a belief is old, then it is permissible and reasonable, from the conservative point of view, for us to hold it.

These four principles seem equally acceptable, but it hardly follows that truth and pleasantness and elderlyness are normative concepts. So how can it follow from the first principle that justification is normative? I suggest that it does not follow.

Of course, justification might be a normative notion even if Kim’s argument for this claim is unconvincing. I will return to the claim itself below (Objection 6). So far, however, my conclusion is that epistemology does not tell us what or how to believe.
Objection 2: Normativity of Belief

Kim has a further argument against Quine’s naturalism, namely that belief attribution is normative and that the concept of belief, which occurs essentially in epistemology, is therefore normative (1994, 43–6). If one also believes, as Kim does, that a naturalized epistemology has no place for normative concepts, it follows that a naturalized epistemology is not an acceptable form of epistemology. This objection can, I believe, be answered as follows.

(1) Whether or not belief attribution is normative, it certainly occurs within such sciences as psychology and the history of science. These sciences are acceptable within Quinean naturalism. Therefore, so is belief attribution.

(2) Moreover, I would reject Kim’s premise that belief attribution is normative. Kim refers to Davidson, who has made this point in several places. The idea is that certain assumptions have to be made when a speaker is interpreted, and among these is the assumption that the speaker is rational—where rationality is a normative concept. Kim says that “unless the output of our cognizer is subject to evaluation in accordance with norms of rationality, that output cannot be considered as consisting of beliefs and hence cannot be the object of an epistemological inquiry, whether plain or naturalized” (1994, 44–5).

However, I am not convinced that such rationality assumptions are necessary in interpretation. Consider a simple case. Suppose Kim would argue that the attribution of the belief that \( p \) to a person is based upon the assumption that the person is rational and the judgment that in the circumstances (including perhaps other beliefs that the person has) the rational thing to believe is that \( p \). I agree that one might argue like this, but it seems to me that the normative elements in the argument are really superfluous. One might just as well assume that the person is like oneself, or like most people, in relevant respects. What we do when we try to find out what a speaker believes, desires, and means by his utterances is to put ourselves in his shoes. Roughly speaking, we attribute the belief that \( p \) to a person, when we believe that we ourselves would believe that \( p \) if we were in his situation with his background and his particular traits and behavior. There seems to be nothing normative here. Just empathy.

Objection 3: Theory Choice

A third objection is similar to the first, but is concerned with theories rather than beliefs. It might be held that epistemology should solve certain practical
problems concerning “theory choice” or “theory acceptance.” Such problems are often referred to in the philosophy of science. Presumably they are not ethical. They are problems about what theories should be accepted at a certain stage of scientific development, but at the same time they are somehow internal to science. The important point is that they seem to be practical problems; they are concerned with what scientists should do. Therefore, since science can only solve theoretical problems, a naturalized epistemology cannot handle problems of theory choice.

(1) One may reply that science can solve practical problems. Indeed, this happens all the time. Engineering problems, for example, are practical. They can be regarded as problems in applied science. It must be admitted, however, such problems are rather different from problems of theory choice. In the latter case, scientific theories seem to be the objects of choice rather than the basis for choice.

(2) On the other hand, it can hardly be denied that scientists do make choices among theories. They decide what theories to “accept” and what theories to “reject.” Who else would be better qualified to solve practical problems of this kind? This is precisely their job!

However, it may be insisted that scientists must apply certain criteria or rules when they decide whether to accept a theory, and that these criteria must in turn be justified or validated. The justification of such criteria may then be regarded as a primary task for epistemology.

I have the following comments to this suggestion.

(3) It is not obvious that the criteria used by scientists really need any justification. It might be held that they are just the rules of the game, which have to be followed by anyone who enters the game. Similarly, the rules of chess do not need any justification. They simply define the game. Moreover, if the criteria of theory choice need justification, such justification will presumably require further criteria of justification, which in turn may need justification, and so on indefinitely. A regress of this kind is intolerable.

(4) However, let us agree, for the sake of argument, that epistemology should justify criteria of theory choice. If so, it seems that such criteria might be justified by being shown to favor theories, which turn out to be scientifically successful.

Quine conceives of the normative part of epistemology in this way. He says that “normative epistemology gets naturalized into a chapter of engineering: the technology of anticipating sensory stimulation” (1992, 19). A somewhat generalized version of this is Larry Laudan’s claim that “normative rules of epistemology are best construed as hypothetical imperatives, linking means and ends” (Laudan 1990, 46), where “the soundness of such prudential
imperatives depends on certain *empirical* claims about the connection between means and ends." The difference is that while Laudan allows different epistemic ends, which may change over time (1990, 46), Quine fixes upon successful predictions, not as the main purpose or the only purpose of science, but as "the checkpoints of science." This is not meant to be a normative proposal. Quine says that "when I cite predictions as the checkpoints of science, I do not see that as normative. I see it as defining a particular language game, in Wittgenstein’s phrase; the game of science, in contrast to other good language games such as fiction and poetry" (1992, 20).

It may not be so easy to draw a clear distinction between the “aims” and the “methods” of science. Quine suggests that such scientific virtues as “conservatism, generality, simplicity, refutability, and modesty” are means to the goal of successful prediction (1992, 20). But maybe some of these can also be regarded as “defining the game of science.” For my purposes in this paper, this is not important. In any case, the methods of science can be criticized and/or justified by means of ordinary scientific methods. The question is whether theories that satisfy certain conditions are likely to satisfy certain other conditions as well? This is a scientific question.

(5) On the other hand, there may still be some room here for normative proposals. There may be no definite features that “define the game of science”; scientists’ beliefs about this seem to have varied over time and from one area of science to another.

But if one believes, as Quine does, that there is “no firmer basis for science than science itself” (1995, 16), and if one is concerned with scientific theories and theory choice in particular, then general criteria of justification will have to be somehow constrained by actual scientific practice. I suggest that they should be in a “reflective equilibrium” with the “considered judgments” of the scientific community, to use the words of John Rawls (1972, esp. chap. 1). There is perhaps still something normative about an attempt to produce such a reflective equilibrium, but it is well in accordance with naturalism, for it takes science as a point of departure.

**Objection 4: Circularity**

We have noted that Quine claims that there is “no firmer basis for science than science itself.” It may be objected that this involves a vicious circle: science justifies criteria of theory acceptance, which in turn justify science. But nothing can justify itself.
Well, there may be a kind of circle here, but it is hardly vicious. It is not really a case of something being justified by itself. Rather, it is a matter of some ingredients of a system being justified by their coherence with other ingredients of the same system. The fact that different ingredients of one and the same system are justified by mutual coherence is typical of coherence theories of justification. All coherence theories involve a certain circularity, but this is usually not taken to be fatal. Foundationalists may disagree, but foundationalism has problems of its own. In particular, if general criteria of theory acceptance should constitute an independent foundation for science, we are left with the problem of how to justify those criteria—and to justify them without any help from science. If, in addition, the criteria are genuinely normative rather than descriptive, the problem of justification becomes even more acute. In general, it is more difficult to justify norms than to justify scientific theories—provided that they are genuine norms and not merely hypothetical imperatives.

In any case, if we want to evaluate the criteria used for evaluating scientific theories, it is reasonable—and even unavoidable—to rely upon what we take the world to be like in various respects, and science consists of our best attempts to find out what the world is like. We can hardly start from scratch. I believe this is the most central point of Quine’s naturalism, the point that he likes to illustrate with the metaphor of Neurath’s ship.

Objection 5: Non-epistemicity

A further objection to Quine’s naturalism is that it focuses on causal and logical relations, and that it neglects epistemic notions like “justification” and “evidence.” This objection occurs, for example, in writings by Richard Rorty, Barry Stroud, and Donald Davidson.²²

It is true that Quine seldom uses such words as ‘justifies’ and ‘justification’. He does not say much about beliefs either. Quine’s naturalized epistemology is primarily concerned with “the relations between our sensory stimulation and our scientific theory of the world” (1992, 1). He seldom mentions beliefs in this connection. Rather, he concentrates upon the relations among sentences; in particular, upon the relation between observation sentences (which are “directly and firmly associated with our stimulations” [1992, 3]) on the one hand and theoretical sentences on the other. Moreover, in a reply to Davidson, he agrees that “in my theory of evidence the term ‘evidence’ gets no explication and plays no role” (1990a, 80).¹³
(1) This may indeed create the impression that Quine is not interested in epistemic notions. But the impression is misleading. Quine is interested in something very like belief, namely the assent to sentences and dispositions to such assent. And he says that science is “not in need of any justification beyond observation and the hypothetico-deductive method” (1981, 72). This indicates that he has certain views concerning justification after all. Moreover, in several places he writes about “evidence”,14 and he also has something to say about “confirmation” (Quine & Ullian 1978, chap. 8).

(2) The most prominent feature of Quine’s naturalized epistemology is the central role of observation sentences and the related triggering of sensory receptors. For Quine, “[t]he stimulation of his sensory receptors is all the evidence anybody has to go on, in arriving at the picture of his world” (1969, 75); it is also “a basis [...] for warranted belief” (Quine 1981, 39). Observation sentences are sentences that are tied by conditioning to sensory stimulation. When you have learnt an observation sentence—for example, such a sentence as ‘It’s raining’—you have been conditioned to assent to the sentence when certain receptors are triggered and to dissent from it when other receptors are triggered.25 The learning has been successful when your assent and dissent is acceptable to your linguistic community. Other speakers will accept your use of the sentence when you assent to it on occasions on which it is raining (by their lights). This is the correct use, and hence what you assent to is true (in general).26

Of course, we sometimes make mistakes when we assent to observation sentences. But if we are competent speakers of the language we seldom make mistakes on favorable occasions. If we did, we would not be competent speakers. This means that, other things being equal, the very competence of a competent speaker makes the speaker justified in believing that an observation sentence is true when he or she is disposed to assent to it on a favorable occasion. The ceteris paribus clause is needed, for there may of course exist theoretical considerations that counteract the speaker’s observational belief.

On the basis of an argument of this kind, I have suggested that Quine might be willing to accept some principle like the following:

(E) A person \( P \) is justified, ceteris paribus, in assenting at \( t \) to observation sentence \( S \), if \( P \) at \( t \) has the capacity to use \( S \) in a competent way, and if \( P \) at \( t \) is subject to neural input which is included in the (affirmative) stimulus meaning of \( S \) for \( P \) at \( t \).

This is a way of formulating Quine’s idea that stimulation is “a basis [...] for warranted belief.” Notice that (E) is incompatible with coherentism.28 Coherentists claim that justification is exclusively a matter of relations among the contents of (a person’s) beliefs. It has nothing to do with the causes of
these beliefs. For Quine, I suggest, neural input is related to beliefs both causally and epistemically.

(3) It seems clear, then, that Quine’s naturalism does not exclude certain views on justification and evidence. Moreover, even if Quine himself does not say much about reasons for belief, it seems that a proponent of naturalized epistemology may very well recognize, and have something to say about, such reasons.

For example, consider a case where I see that it is raining. I have learnt to use the observation sentence ‘It’s raining’, and my sensory receptors are triggered in the relevant way, so I come to believe that it is raining. In this case, I have a reason to believe that it is raining, viz. that I see that it is raining.29 What better reason could I have? The fact that I see that it is raining is a reason for my belief, since it is evidence for the fact that it is raining—which is in turn the content of my belief. It is evidence for the fact that it is raining, since it is caused (and explained) by this fact. This way of describing the situation is in accordance with common usage. Moreover, it is quite consistent with a naturalized epistemology. There is no need for a naturalist to repudiate epistemic notions.

Objection 6: Normativity of Epistemic Notions

It may be objected that naturalists who use epistemic terms like ‘justification’, ‘evidence’, and ‘reason’ will have to use these terms in a non-standard, causal or logical sense, in spite of the fact that they are normally used in a normative sense. Hence, the objection continues, naturalism involves a change of subject: it ignores genuinely epistemic relations in favor of causal and logical ones. In particular, when Quine speaks of justification, evidence, and other epistemic notions, he does not use these terms in the usual, normative sense.

I have already suggested that what Quine calls “normative epistemology”—that is, on his view, a part of naturalized epistemology—is hardly normative at all, in the sense of ‘normative’ that Kim and others may have in mind. Usually, the norms in question are merely technological norms or hypothetical imperatives. Such “norms” are really equivalent to factual statements to the effect that something is a means to something else. For example, Quine’s so-called maxim of minimum mutilation says, roughly speaking, that when our theory of the world has to be modified in order to accommodate new test results, we should retain as much as possible of our original theory (1992, 14). This maxim is not meant to convey anything over and above the purely factual
statement that a conservative modification retains a maximum of our theory's capacity to imply successful predictions. So it is not normative.

Another example is empiricism. Quine says that “the watchword of empiricism: nihil in mente quod non prius in sensu” is “the most notable norm of naturalized epistemology”; it is “a finding of natural science itself,” but “the point is normative, warning us against telepaths and soothsayers” (1992, 19). This supports the hypothesis that when Quine speaks of epistemological “norms”, he is really referring to certain natural facts—in particular, to facts that are normatively relevant from the point of view of those who want to play “the game of science” or those who want their beliefs to be true.

Consequently, it may well be expected that when Quine uses epistemic terms like ‘justification’ and ‘reason’ he will use them to make factual, non-normative statements. For example, let us consider the principle (E) above. Some philosophers—e.g. Kim—may take (E) to be a normative principle, but presumably Quine would regard (E) as more or less equivalent to the following:

(E') If \( P \) at \( t \) has the capacity to use observation sentence \( S \) in a competent way, and if \( P \) at \( t \) is subject to neural input which is included in the (affirmative) stimulus meaning of \( S \) for \( P \) at \( t \), then \( P \)'s disposition to assent to \( S \) at \( t \) is caused by a process which is likely, ceteris paribus, to result in dispositions to assent to true sentences.

The important thing about justification, in epistemological contexts, is that there is a strong positive correlation between justification and truth (or between justification and successful predictions). Unless there is such a correlation, it is not clear why justification is a desirable feature of beliefs and why it is a condition of knowledge. This is why (E) and (E') may be regarded as equivalent. But (E') is factual rather than normative. It can be expected to be true because the way people have learnt to use observation sentences—and because natural selection has provided us with certain standards of similarity that make such learning processes possible and rather successful.

We have seen that Kim’s attempt to show that “justification” is a normative concept is not successful. However, it may still be true that some philosophers use epistemic terms with a normative interpretation. For example, Hartry Field claims that “to say that a belief is justified is to evaluate it” (1982, 563), and James Robert Brown says that “anti-naturalists (and I include myself in this camp) claim that there exist such things as reasons in the strongly normative sense,” and that “[t]o say that \( R \) is evidence for \( P \) or a reason to believe \( P \) is to say that one ought to believe \( P \) (unless of course there is even stronger evidence to the contrary)” (2001, 149 & 156).
In order to discuss the question of whether epistemic terms like those mentioned here are normative or factual, let us focus upon a concrete example. I shall take it for granted that (most experts would agree that) the observation that there is a displacement towards the red end of the spectral lines of distant galaxies, the so-called red shift, is evidence for the theory that the universe is expanding. So, let us consider the following two statements:

(α) Red Shift is evidence for Expansion.

(β) Red Shift is a reason for X to believe in Expansion (provided that X satisfies certain conditions, e.g. that he knows something about physics, etc.).

The sixth objection can now be taken to involve the claim that naturalists fail to recognize that statements like (α) and (β) are normative. But are such statements really normative?

(1) It may be claimed that statements like (α) and (β) are in fact “understood as normative” in the epistemological tradition. I am not at all sure that this is true, but even if it were true, it does not follow that such an interpretation is somehow better than an interpretation which takes (α) and (β) to be non-normative.

(2) Different philosophers may have different views concerning the question of whether statements like (α) and (β) are normative. A similar difference of opinion is well known in the area of moral philosophy. Some philosophers regard moral statements as normative (or prescriptive), whereas others claim that moral statements are really statements of natural fact. There is no consensus here. Similarly, the question remains whether statements like (α) and (β) are normative when they occur in ordinary usage and in science.

(3) One may ask whether statements like (α) and (β) are “understood as normative” by the scientists themselves. I suspect that they are not. I take it that statements like (α) and (β) are often made by scientists and are regarded by them as scientific statements—as statements which can be established by scientific methods. This is perhaps not decisive, for scientists may also be mistaken, especially when they have views on matters on which they are not professional experts—such as the semantics and pragmatics of their own professional language. Still, if scientists regard statements like (α) and (β) as factual, I am inclined to say that this is a fairly good reason to believe that they are factual when used by scientists.

(4) However, anti-naturalists like Kim may say that it is irrelevant whether statements like (α) and (β) are factual when used by scientists and ordinary people. The fact remains—they might say—that such statements are normative when they occur in epistemology, for epistemology is concerned with
normative problems. Therefore, naturalized epistemology involves a change of subject.

In order to find out whether naturalists like Quine and anti-naturalists like Kim use sentences such as (α) and (β) in different ways, one may try to find out whether they differ about what can be evidence for statements like (α) and (β) and whether they allow different reasons for accepting them.

My hypothesis is that there is no difference here. Both parties can be expected to agree that the evidence and the reasons are all scientific (causal or statistical or observational). And given that the reasons for accepting (α) and (β) will have to be scientific, I suggest that naturalists and anti-naturalists alike would leave it to the scientists to say what they are.

(5) It might then be suggested that naturalists and anti-naturalists interpret (α) and (β) differently, since they have different expectations concerning the behavior of people who accept (α) and (β), or since they exhibit different reactions to such behavior. For example, unlike naturalists, anti-naturalists might expect people who accept Red Shift as well as (α) and (β) to believe that the universe is expanding and they might be disposed to blame such people if they don’t believe that the universe is expanding.

However, my hypothesis is, again, that there is no such difference. As before, this is an empirical claim. I have no systematic investigation to back it up, but I suggest that it is a plausible speculation. Naturalists, as well as anti-naturalists, are surely free to have dispositions of this kind. As indicated above, they may be based on empathy.

What I have just said under (4) and (5) seems to me to suggest that anti-naturalists and naturalists do not really use statements like (α) and (β) in different ways, even if they think they do. In any case, if I am right that the evidence for (α) and (β) would be the same whether or not one “understands them as normative”, it does not seem to matter much in practice whether we regard them as normative. Nothing is lost if we don’t.

(6) Kim draws attention to a distinction between the claim that (i) normative terms are definable in naturalistic terms, and the claim that (ii) there are naturalistic conditions or criteria for normative terms (1994, 49). Kim accepts (ii) but not (i) (1994, 51). Can we say, then, that (α) and (β) as used by naturalists express the criteria of the statements made by anti-naturalists when they use (α) and (β)? If so, the two parties may seem to use (α) and (β) differently after all.

I think this is much too sophisticated. The alleged distinction between the meaning and the criteria of epistemic statements like (α) and (β) can hardly be upheld. Rather, the problematic character of the distinction can explain the disagreement concerning the normativity of statements like (α) and (β).
Objection 7: Radical Scepticism

Some philosophers would still insist that Quine’s naturalized epistemology cannot replace traditional epistemology. Thus, Barry Stroud says that “there still appears to be a question (and what looks like the most basic question we can ask about our knowledge of the world) which Quine’s epistemology does not and cannot answer” (1981, 460). The problem Stroud has in mind is that of refuting Cartesian scepticism by showing that the world is not completely different from what it seems to be. It is “the traditional philosophical question of how we can “validate” all our knowledge of the world and thereby know that the world matches up with the way it is perceived to be” (1981, 74).

(1) From a Quinean point of view it may be replied that as long as our theory of the world is in accordance with “observation and the hypothetico-deductive method” it does not need any further validation.

However, this would not satisfy philosophers such as Stroud or Descartes. They would point out that theories which are very different from ours can be just as compatible with our observations. For example, such theories may say that we are dreaming or that our observations are caused by an evil demon or by mad doctors manipulating brains in a vat or by some unknowable Ding an sich. Theories of this kind may be called “D-theories.”

(2) But such simple D-theories are not equally supported by observation and the hypothetico-deductive method. They do not predict anything. From the simple theory that I am dreaming I cannot derive the prediction that I will burn my finger if I put it into a fire. Therefore, plausible D-theories have to contain much more information concerning the kind of dream, demon, and so on that is involved. Indeed, they have to be parasitic upon our normal theory of the world. They have to say something to the effect that our observations are caused by some mechanism which causes us to make precisely those observations that we would have made if our normal theory of the world had been true.

D-theories of this more complicated kind would indeed have the same empirical content (at least so far) as our normal theory—since they are constructed for this very purpose—but they would not be equally supported by observation and the hypothetico-deductive method. The reason is that they contain some completely irrelevant extra assumptions which do not increase their explanatory power. Our normal theory is simpler and therefore to be preferred, according to ordinary scientific standards.

At this point, someone like Stroud or Descartes may draw our attention to a related theme in Quine’s philosophy, namely the underdetermination of theory by data. Quine himself has often claimed that our theory of the world...
is underdetermined in the sense that there may be very different theories which are equally simple and empirically equivalent to ours. This means that very different theories may be equally supported by evidence, and Stroud may now ask how we can exclude the possibility that one of these other theories is true and our theory is false. In particular, “observation and the hypothetico-deductive method” cannot help us here, since both theories do equally well on that count.

(3) Quine would agree that the two theories are epistemologically on a par, but he would reject the further suggestion that our own theory might be false and the other theory true. Our theory may indeed turn out to be false, but the only way this can happen is that the theory implies predictions that turn out to be false. But, of course, if our theory should imply false predictions, so would any theory empirically equivalent to it.

Nevertheless, our theory may indeed imply false predictions. This cannot be ruled out. Quine is surely right in holding that “the Humean predicament is the human predicament” (1969, 72). Even if our inductions have been quite successful so far, they may go radically wrong in the future. Therefore, if “the traditional philosophical question of how we can “validate” all our knowledge of the world” is a demand for a guarantee that our theory of the world will never imply any false predictions, it is a demand that cannot be met. Our science cannot be certified. In this sense Quine accepts “skepticism”—but surely ‘fallibilism’ is a better term.

But let us now imagine that our theory is in fact “conformable to every possible observation.” If so, the same is true of any empirically equivalent theory. Could it not then turn out that our theory is false, while some empirically equivalent but drastically different theory is true?

(4) Well, this can hardly “turn out” to be the case. There is no way it could become evident. Nevertheless, could it not be the case, even if we can never find out? Not according to Quine. He claims that “the world cannot be said to deviate from what the theory claims” if the theory conforms to every possible observation (1981, 22).

But if this is so, should we not also have to say that every theory of the world that is “conformable to every possible observation” is true? No. The predicate ‘true’ belongs to our own language and, consequently, the question of whether some alien theory is true has no answer until it has been translated into the language of our own theory. If it cannot be translated into our language, it is meaningless rather than true (by our lights). If it can be translated into our language, it can at most be true (or false) relative to a certain translation manual.
Someone may feel that our own theory might still be false. Can we really accept Quine’s thesis that the world cannot deviate from what our theory claims, if it conforms to every possible observation? Quine seems to be saying that our theory is true if (and only if) it is empirically adequate. This would be all right if our theory does not say anything about the world over and above what it says about its observable features. But this is not Quine’s view. He insists that a theory says “incomparably more” about the world than is said by its observational part (1994, 497).

(5) The answer to this question has to do with the “immanence” of truth. According to Quine, “there is no extra-theoretic truth, no higher truth than the truth we are claiming or aspiring to as we continue to tinker with our system of the world from within” (1975b, 327). Theoretical sentences are simply meaningless outside their own theories, they are “meaningless intertheoretically” (1960, 24). Consequently, the truth predicate can only be applied to sentences that belong to our own language, the language in which our own theory is formulated. As I said, ‘true’ belongs to our own language. It is correctly used when it is applied to sentences which we accept. To say that the sentence ‘Brutus killed Caesar’ is true “is in effect simply to say that Brutus killed Caesar” (1960, 24), but this is only meaningful in the context of our own theory.

It should be noticed that for Quine, “there is no meaning but empirical meaning” (1975a, 80). Consequently, empirically equivalent theories have the same meaning, and “say the same thing” about the world. How can this be reconciled with Quine’s claim that “theories say incomparably more” about the world than is said by their observational parts? The answer is again immanence. When we accept a given theory, we accept also its theoretical sentences and we thereby accept claims about the world that are not implied by the observational part of the theory. Similarly with alien theories, to the extent to which we manage to translate them into ours. But from a “transcendent” perspective, a perspective outside all theories, theories do not make any claims about the world at all. Therefore, there really is no transcendent perspective.

Quine writes (1981, 21): “We must speak from within a theory, albeit any of various. […] What evaporates is the transcendental question of the reality of the external world—the question whether or in how far our science measures up to the Ding an sich.” Rather, “it is within science itself, and not in some prior philosophy, that reality is to be identified and described” (1981, 21).

The transcendental question referred to by Quine is, I believe, the same as the “traditional philosophical question” referred to by Stroud. In a sense, then, Stroud is right that Quine’s epistemology does not answer this question.
But Quine claims, correctly in my view, that the question is unintelligible or incoherent. It “evaporates.”

In particular, then, underdetermination does not show that our theory might be false. Consequently, there is indeed also a sense in which Quine’s naturalized epistemology does answer the sceptic.\(^\text{40}\)

**Notes**

1. See Quine (1969, 69–90) and several of his later papers and books.
2. This seems to be Descartes’ aim in the Meditations, and it is a main theme in Hume’s empiricism. As Quine points out, the corresponding project is not possible even for mathematics. Reduction to logic would increase the certainty of mathematics, but such a reduction cannot be carried out. Set theory is also needed, in addition to elementary logic, but the axioms of set theory are less certain than many mathematical theorems. Besides, no consistent axiom system can cover all mathematical truths. See Quine (1969, 70).
3. Maybe justified true belief should satisfy some further requirement in order to qualify as knowledge, but this problem will be disregarded here.
5. Another formulation is this (Quine 1995, 16): “Unlike the old epistemologists, we seek no firmer basis for science than science itself; so we are free to use the very fruits of science in investigating its roots. It is a matter, as always in science, of tackling one problem with the help of answers to others.”
6. This phrase is used by Ronald Giere to clarify ontological naturalism, see Giere (2000, 308).
7. See BonJour (1995, 30).
8. This is BonJour’s definition (1995, 29).
9. Mathematical statements are scientific and I think Quine should agree that they can be justified “a priori”—i.e. independently of experience. The reason, of course, is that true mathematical statements can be justified by proof. And Quine says, “I have stressed the kinship of mathematics to natural science, but there is no denying the difference. Pure mathematics has the advantage of being deducible from first principles without sensory disruption.” See Orenstein and Kotatko (2000, 416).
10. See e.g. Quine (1953, 43).
11. At the very end of his *Enquiry Concerning Human Understanding*.
12. For example, P. F. Strawson has written, “It is an analytic proposition that it is reasonable to have a degree of belief in a statement which is proportional to the strength of the evidence in its favour” Strawson (1952, 256).
13. Kim seems to take it for granted that ‘permissible’ and ‘reasonable’ are normative concepts. Perhaps they are, but ‘permissible from the epistemic point of view’ and ‘reasonable from the epistemic point of view’ do not seem normative. Rather, they seem to be descriptive. They describe different points of view or different systems of rules. Moreover, in epistemic contexts, ‘permissible’ may often be short for ‘permissible from the epistemic point of view’, and similarly with ‘reasonable’ and ‘justified’. Under such an interpretation, even these terms would be descriptive.
14 See Quine (1992, 1), and also Quine (1995, chap. 8).
15 This is more or less what Quine says about belief attribution in (1992, 66).
16 It is not clear to me what ‘accept’ means in contexts like this. Perhaps it involves certain practical decisions.
17 There may also be extra-scientific, ethical problems concerning the actions and beliefs of scientists.
18 But see point (4) below for further considerations.
19 See also Quine and Ullian (1978, chap. 6).
21 Accordingly, Quine says (1981, 181): “Our speculations about the world remain subject to norms and caveats, but these issue from science itself as we acquire it.”
23 But see also Quine (2000, 411).
24 See e.g. the first chapter in Quine (1992; which is entitled “Evidence”), and several chapters in Quine and Ullian (1978).
25 Of course, in both cases, several alternative sets of receptors will do. They will do to the extent that they are “perceptually similar;” compare Quine (1995, 17f).
26 Compare the discussion in Bergström (2000, 63).
28 Quine regards his position in epistemology as a combination of foundationalism and coherentism (but he dislikes Susan Haack’s term ‘foundherentism’ for such a combination). His foundationalism consists in the view that “the checkpoints of beliefs are sensory observations;” his coherentism “is evident in my holism, however moderate.” See Quine (1990b, 128).
29 The fact that I see that it is raining is also a reason for me to believe that I see that it is raining. In this way, we do not have to get involved in endless chains of reasons.
30 Kim suggests that Quine rejects the idea that “epistemic concepts are naturalistically definable.” However, as far as I can see, Kim has no argument for this claim.
31 Compare Kim’s claim (1994, 35) that “justification, as it is understood in this tradition, is a normative concept.”
32 He cannot accept (i), for that would involve acceptance of the claim that epistemic terms are naturalistic and non-normative.
33 Moreover, it is a distinction that would be rejected by Quine, since it is a close relative of the distinction between analytic and synthetic statements.
34 See Quine (1981, 72).
36 Stroud (1981, 83) describes the situation as follows: “Every competing ‘theory’ is equally compatible with the same meager ‘data’ that make up what Quine thinks of as the objective component, so our selection of one ‘theory’ over others could arise only from some aspect or other of our subjective constitution. And that is precisely what the traditional epistemologist always saw as a threat to our knowledge of the external world.” In his 1984 book, he says (p. 232) that the “sceptical conclusion” comes with “the realization that everything we get through the senses is compatible with countless different
"hypotheses’ about what is the case beyond those sensory data, so there is no way of telling which of the many different possibilities actually obtains."

37 Compare Quine (1994, 497).

38 However, empirically meaningless sentences may still have a kind of immanent, nonempirical meaning; see my (2001, 24–5) and Gibson (1998, 678).

39 It should be noticed that for Quine there is no sharp distinction between science and common sense. In one place (1960, 3), e.g., he says that “science is self-conscious common sense.”

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References


