



ESSAY REVIEW

Feyerabend's Early Philosophy

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John Preston, *Feyerabend. Philosophy, Science and Society* (Cambridge: Polity Press, 1997), xii+234 pp. ISBN 0-7456-1676-3, Paperback US\$25.95.

A comprehensive, critical evaluation of Feyerabend's philosophical work is extraordinarily difficult for a number of reasons. His writings provoked a wide range of interpretations and reactions. In some cases, this resulted from Feyerabend's tendency to adopt ideas which at other times he criticized. Preston uses two strategies to avoid these difficulties. First, for the most part, he avoids the swamp of secondary literature by simply ignoring it. Second, he restricts his main investigation to a select number of papers, concerning a select number of topics, published between 1956 and the late 1960s—a small slice in size and scope of Feyerabend's work.¹ Difficulties also arise because Feyerabend was not always honest about his own intellectual history. Most especially, as Preston has pointed out (p. 213, n. 9), Feyerabend systematically doctored his earlier papers when they were reprinted, excising his praise of Popper. To illustrate with an additional example, in a paper of 1965, Feyerabend writes: 'We need the historical background . . . for raising the level of discussion to the heights already achieved by Democritus, Galileo, Descartes, Faraday, Kant, Boltzmann, Maxwell, Einstein, *Popper*' (Feyerabend, 1965, p. 251, n. 1, our italics). But in the version that appears in his 1981 collected papers, 'Popper' has vanished. 'Duhem' has taken its place (Feyerabend, 1981). For these reasons, we will restrict the basis of our criticisms of Preston's book to a small number of original versions of early texts. But, in our view, some difficulties with Feyerabend's philosophical works can

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¹For a comprehensive list of Feyerabend's works, see Oberheim (1997). An improved English version will appear in Feyerabend (1998).

be traced back to a more important source: his conception of and approach to philosophy, which is closely tied to his style of philosophizing.

In Section 1, we present Preston's book. Section 2 is a detailed criticism of Preston's section 1.1 in which he attempts to identify Feyerabend's conception of philosophy. Section 3 takes issue with Preston's project: to set out Feyerabend's 'Model for the Acquisition of Knowledge'. To conclude (Section 4), we briefly present what we take to be the central concern in Feyerabend's early work.

1.

Preston proposes a chronological, critical introduction of the central themes in Feyerabend's philosophy. He divides Feyerabend's work into two phases. The turning point is marked by Feyerabend's own loss of interest in his earlier work, which happened around 1970. Preston attempts to show how Feyerabend's version of scientific realism, his theory of meaning, his argument for pluralism, and his radical materialist philosophy of mind, all hang together within Feyerabend's 'Model for the Acquisition of Knowledge', which is based upon Feyerabend's normative conception of methodology. Eight out of ten chapters are devoted to this task. The last two chapters treat Feyerabend's post-1970 work. Here, the assumption that Feyerabend developed a single unified model for the acquisition of knowledge is dropped. In these two chapters, Preston sets himself two goals: to consider Feyerabend's political philosophy, and to explain why relativism is regarded as untenable by many philosophers (pp. 7–8).

Based on Feyerabend's early paper 'A Note on the Paradox of Analysis' (Feyerabend, 1956), Preston begins by attempting to characterize the conception of philosophy that Feyerabend set out and chose to pursue. He calls this conception 'scientific philosophy', and contrasts it with 'analytical philosophy'. Analytical philosophy is concerned with conceptual propositions, while scientific philosophy attempts to yield scientific knowledge (pp. 9–10). According to Preston, the early Feyerabend was a Popperian because he subscribed to normative epistemology, falsificationism and inductive skepticism (p. 12). Preston claims that he attempted to develop a rational model of science, and that Feyerabend understood the aim of science, and thus the aim of his scientific philosophy, to be the attainment of knowledge. Preston contrasts this with other philosophical aims such as understanding, insight, wisdom and conceptual clarity (pp. 12–13).

Preston distinguishes two conceptions of epistemology: descriptive and normative. Preston claims that Feyerabend's early philosophy attempted to provide a purely normative epistemology (p. 15). Preston then identifies what he takes to be 'the single most important root of Feyerabend's philosophy', which is that 'science has no nature' (p. 16). According to Feyerabend, different normative ideals of science give rise to different pictures of science. Preston claims that this normative conception of epistemology is confused (p. 17). He sets out Feyerabend's view of the ethical basis of epistemology and characterizes this idea: 'because our knowl-

edge depends not on how things are in a world independent of our will but on our decisions, the decisions we make can and must be evaluated by reference to our ideals' (pp. 20–21). Because some of these ideals will be ethical, ethics is the basis of epistemology. Consequently, epistemological questions are settled by decision, not by proofs. Preston claims that while insistence on ethics as the basis for epistemology is consistent with Feyerabend's normative conception of philosophy, both are in tension with 'scientific philosophy' (p. 22).

In chapter 2, Preston presents Feyerabend's conception of meaning and his related attack on positivism. According to Preston, Feyerabend's early work can be best be understood as an attempt to combine the insights of Wittgenstein with those of Popper. Other formative influences are listed—'Boltzmann, Mach, Kraft, Ehrenhaft, Frank, Brecht, Bohm, etc.' (p. 23)—but not developed. Preston claims that in the early 1960s Feyerabend subscribed to a 'contextual theory of meaning' according to which the meaning of a term is determined by its theoretical context (pp. 25–29). Preston claims that this logically implies the core idea in Feyerabend's version of scientific realism: the idea that when the theories which are used to explain what is observed change, the interpretation of an observation language also changes (p. 30). Preston investigates Feyerabend's views about the positivist/realist dispute. According to Preston, Feyerabend's argument hinges on rejecting the 'stability thesis': the idea that the meanings of observational terms remain constant through theoretical change. However, Preston claims that positivists need not subscribe to the stability thesis, and thus that Feyerabend has attacked a straw man (p. 33–4).

The third chapter discusses different conceptions of the theory-ladenness of observation, and investigates Feyerabend's rejection of foundationalism. Feyerabend's basic idea is that observability is determined by pragmatic, not observational, criteria. Preston argues that Feyerabend is clearly mistaken. He remarks that 'it is hard to see how statements which have *no* observational meaning could possibly count as observation statements' (p. 43). According to Preston, 'for Feyerabend the nature of observation, the nature of meaning, and the nature of the relationship between theory and observation are all determined by our decisions to adopt particular theories about those matters' (p. 49). Preston claims that this conflicts with Feyerabend's realism because it subverts the idea that these theories are about 'mind-independent phenomena, phenomena whose natures do not depend on our decisions' (p. 49). Preston points out that Feyerabend was a proponent of the Kuhnian idea that there have been radical conceptual changes in science (pp. 50–51). He proceeds to present Feyerabend's idea of human beings as measuring instruments, and criticizes it as confusing causal regularity and rule-governed regularity (pp. 52–54). The chapter ends with a general, negative assessment of Feyerabend criticisms of foundationalism:

Because Popper and Feyerabend do not show the descriptive correctness of their proposed methodology, their criticisms of foundationalism remain largely unsupported. (p. 60)

Chapter 4 develops what Preston presents as Feyerabend's scientific realism. He identifies 'three ingredients': (a) an ontological ingredient according to which 'theories tell us about what things are, their very nature, in a world which exists independently of measurement and observation', (b) a semantic ingredient according to which theories are universal statements used for explaining facts and whose terms have descriptive meaning, and (c) an epistemological or psychological ingredient according to which observations, not theories, are in need of interpretation. Preston stresses that Feyerabend's realism strives for a 'unified "theory of everything"' (pp. 61–62). Preston considers Feyerabend's arguments for realism and against instrumentalism. Feyerabend's basic idea is that a realistic interpretation of a theory is a more heuristically fruitful research strategy than a positivist or instrumentalist interpretation. Preston concludes that:

The early Feyerabend must be admonished not just for thinking of the realism/instrumentalism dispute as resolvable by a decision, but at the same time for trying to pass off 'scientific realism' as a component of science itself, rather than as a philosophical view about the nature of scientific theories. (p. 73)

Chapter 5 investigates Feyerabend's arguments against theoretical monism: the use of one theory per domain. The chapter begins by developing the 'myth predicament', the concern that our scientific theories can develop into metaphysical dogmas. He identifies this as one of Feyerabend's most important and original lines of thought. Here, Feyerabend's basic idea is that our theories determine our conception of reality. According to Feyerabend, unswerving adherence to a single theory or point of view enslaves the mind. Feyerabend understood science as a human tradition of critical discourse which he traced back to the Ionians. Preston claims that: 'Neither he [Popper] nor Feyerabend seriously addresses the question of whether mature science could really follow the pattern of pre-Socratic intellectual activity', and that they are both guilty of trying to import philosophical method into scientific method (p. 79). The discussion then centers around reductionism and Feyerabend's arguments against it. The rest of the chapter investigates disagreements between Feyerabend and Kuhn. The main point of contention is whether monolithic paradigm-based normal science is preferable to the pluralistic picture Feyerabend has put forth.

Chapter 6 is on the incommensurability thesis. Preston claims that 'the most controversial consequence of the contextual theory [of meaning] is the incommensurability thesis' (p. 102). According to Preston, Feyerabend's 'version of scientific realism is essential to establishing the existence of incommensurability' (p. 108). Feyerabend thought that he had shown that incommensurable theories are better suited to the purpose of criticism than are merely contradictory pairs (p. 115). Preston supplies, and discusses, a list of ways in which Feyerabend thought that incommensurable theories can be and are compared (p. 117).

Chapter 7 discusses Feyerabend's theoretical pluralism. Here, Feyerabend's basic idea is that certain facts which may be needed to assess a particular theory can

only be discovered by developing alternatives to that theory. Feyerabend uses the case of Brownian motion to make his point. He argues that the fact that Brownian motion refutes the second law of thermodynamics could not have been discovered without the development of an alternative theory. The example is generalized and discussed under the rubric: 'The Generalized Refutation Scheme'. Preston objects that it suggests that which a theory entails changes without a change in the theory (p. 131). Preston also launches a by now often repeated general criticism: 'Unless these are the methodological rules which scientists actually subscribe to, they are just philosophical propaganda' (p. 136). Preston then presents the principles that he takes as Feyerabend's pluralistic methodology: falsification, revision, empiricism, testability, realism, proliferation and tenacity (pp. 137–138). Preston points out (p. 138) that although Feyerabend 'never put these principles together in his mind as a single pluralistic methodology', his 'theoretical pluralism' and the corresponding 'pluralistic methodology' is intended to be a single methodology for all scientific inquiry. This is contrasted with Feyerabend's later 'methodological pluralism', according to which science does not have a single methodology. For this reason: 'When Feyerabend became a methodological pluralist, he had officially forsworn the resources which originally allowed him to argue for theoretical pluralism' (p. 139). To close the chapter, Preston rejects Feyerabend's unrestricted principle of proliferation, explaining that only *good* alternative theories can be useful in science.

Chapter 8 begins by discussing what Preston calls Feyerabend's new radical 'Super-realism': the stance that only what our best theories posit is real. Common-sense realism about tables and chairs is to be replaced by realism about 'strange subatomic entities of microphysics' (p. 145). Preston proceeds to reject Feyerabend's related idea that philosophical problems, such as the mind-body problem, can be solved by abandoning the points of view which gave rise to them. In particular, Preston discusses Feyerabend's eliminative materialism which urges that we give up discourse which makes use of 'mental' terms, in favor of physical descriptions. Preston responds: 'analytic philosophers should respond to this line of thought by reiterating that philosophical problems cannot be solved by conceptual change'. According to Preston, while they may be dissolved, such a strategy only ignores the conceptual problems by sweeping them under the carpet (p. 157).

The last two chapters briefly take up Feyerabend's post-1970 work. Chapter 9 presents Feyerabend's 'epistemological anarchism'. Feyerabend's famous argument for the limited validity of methodological rules is presented and criticized. Incommensurability is reconsidered as an anthropological discovery as presented in *Against Method*. Preston concludes that 'Feyerabend himself has misrepresented "the anthropological method"' (p. 190). Chapter 10 is concerned with 'relativism' and Feyerabend's changing ideas about truth. Preston illustrates Feyerabend's growing dissatisfaction with 'Truth' (which he later called a 'theological term'), as well as a slogan of critical rationalism which may be unimportant or even unde-

sirable (pp. 192–193). Preston presents Feyerabend's views on relativism. He bases his account on Feyerabend's 'Rationalism, Relativism, and Scientific Method' (1977). Preston carefully points out that although Feyerabend did sometimes use the term 'truth', 'he claimed to use it in an *ad hominem* capacity only' (p. 193). Finally, Feyerabend's call for the separation of Church and State is briefly discussed, as is his 'Democratic Relativism'.

2.

Although Preston does identify and highlight many issues with which Feyerabend was concerned, there are some problems with Preston's account which show up very early on. More specifically, when Preston tries to identify Feyerabend's early conception of philosophy in the first section of chapter 1, we believe that he misinterprets Feyerabend in a way that has been fairly common. We aim to show that what we take to be Preston's mis-readings are induced by Feyerabend's specific approach to, and style of, philosophy. We will begin by expounding our reading of Feyerabend's 'A Note on the Paradox of Analysis' (1956) which is the subject of Preston's section 1.1. After a few comments, we will then contrast our reading with Preston's presentation.

In essence, Feyerabend's five-page 'Note' contains four elements: (1) a critical exposition of the paradox of analysis; (2) his proposed solution of it; (3) a specific consequence of his discussion of it; and (4) a hypothesis explaining why philosophers are inclined to reject his solution. Let us deal with these points in turn.

(1) Very briefly, the paradox of analysis consists in this (Feyerabend, 1956, p. 93). Let $A=B\&C$ be a correct analysis of expression A , that is, A and $B\&C$ are synonymous. The synonymy of two expressions implies the possibility of their substitution without a change in meaning. Thus, ' $A=B\&C$ ' is synonymous with ' $A=A$ '. As ' $A=A$ ' is trivial, due to its correctness, so is ' $A=B\&C$ '. Thus, any philosophy that is purely analytic is bound to be trivial. In this context, 'trivial' means 'it does not convey any knowledge which one does not already possess' (*ibid.*).

(2) Feyerabend solves the paradox as follows. First, he distinguishes semantic and pragmatic contexts (*ibid.*, p. 92). Pragmatic contexts, in contrast to semantic contexts, involve not only propositions, but also attitudes of human beings. According to this distinction, the expression ' x is trivial' is a pragmatic predicate, as propositions are not trivial in themselves. Sentences expressing propositions may be trivial only in their relation to readers or listeners. Second, the concept of synonymy is introduced as a purely semantic relation. It follows that synonymies do not have to be trivial, as triviality is a pragmatic concept. For example, learning an equivalent term in a different language may be non-trivial. Thus the paradox of analysis collapses (*ibid.*, p. 94).

(3) The particular consequence Feyerabend draws from his discussion of the paradox is based on his distinction between the predicates 'analytic' and 'scientific',

as applied to philosophy. A philosophy is called analytic *iff* it exclusively deals with analyses of the type $A=B\&C$. It is called scientific *iff* it is 'interesting, progressive, about a certain subject matter, [and] informative' (*ibid.*, p. 94).² Thus, '*philosophy cannot be analytic and scientific . . . at the same time.*'

(4) According to Feyerabend, the most important reason why most philosophers are inclined to reject his solution of the paradox is that they want a philosophy that is both analytic and scientific (*ibid.*, pp. 94–95).

It is important to reflect on what Feyerabend does and does not commit himself to in the course of his argument. Obviously, any attack on the 'Note' must target elements to which Feyerabend is committed. However in Feyerabend's case, it is notoriously difficult to identify exactly those elements because he very often uses immanent criticisms, or, in other words, *ad hominem* arguments. In this kind of argument, Feyerabend's use of some distinction or concept does not necessarily indicate that he is committed to this distinction or concept in the sense that he is obliged to defend it if it is attacked. The distinction or concept may be temporarily adopted, for the sake of argument, if it is a part of the argument or position that he is attacking. In this way, Feyerabend only intends to show that there is an inconsistency among the various elements used by his adversaries. This does not commit him to any substantive defence of those elements. He only has to show (a) that his adversaries are really using these elements, and (b) that taken together, either they are inconsistent, or they lead to consequences which are undesirable to his adversaries. This mode of argument is central to Feyerabend's approach to, and style of, philosophy. In any context, this mode of argument minimizes its own presuppositions. It also necessitates a very careful reading of the respective texts. We believe that the exceptional lack of commitment tied to this kind of argument is a reflection of Feyerabend's deep quest for independence, both on the professional and the personal level.³

A complete analysis of the elements to which Feyerabend is committed in this 'Note' is beyond the scope of this review. But in introducing some of the main distinctions, his *rhetoric* is remarkable. For instance, in the very first sentence of the 'Note', he introduces the distinction between pragmatic contexts and semantic contexts in the following way: 'Let me start by explaining a distinction which *prima facie* [!] seems to be [!] nearly [!] self-evident' (*ibid.*, p. 92). Shortly thereafter, he writes 'it seems [!] most natural to introduce the *concept of synonymy* in the following way' (*ibid.*). To be sure, these hedging phrases are not proof that Feyerabend is *not* committed to these distinctions. He may underestimate his own degree of commitment, or even be trying to hide it. But the contrast with what he is con-

²It should be noted that on p. 94 Feyerabend's introduction of the term 'scientific' does not include the feature of progressiveness, whereas in its use on p. 95 it does. But this minor mistake has consequences neither for Feyerabend's nor for our argument.

³See Hoyningen-Huene (1997) and (1999). Of course, we are aware of the fact that this statement is not an argument for anything claimed in this essay.

sciously committed to is quite obvious. After claiming that *the paradox of analysis* is based on the assumption that a difference of triviality values of otherwise synonymous expression indicates a change in meaning, he continues: 'In the following sections I shall first show that the above assertion is true [!]. I shall then show [!] that . . . ' (*ibid.*, p. 93).

In this 'Note', Feyerabend certainly does not commit himself, directly or indirectly, to a particular conception of philosophy which he believes to be correct. This is even true if one reflects upon the kind of philosophy Feyerabend practises when writing the 'Note'. Undoubtedly, Feyerabend's procedure can be broadly described as *analytic* because he analyses the paradox and the concepts constitutive of it. Strictly speaking, this fact does not even commit Feyerabend to the view that this is a right way of doing philosophy, because he is addressing analytic philosophers. It is *their* commitment to analysis which he is using, but not defending. There is even less evidence in the 'Note' to suggest that Feyerabend commits himself to the view that philosophy should be scientific (in Feyerabend's sense). At the end of the 'Note', Feyerabend only concludes that '*philosophy cannot be analytic and scientific . . . at the same time*' (p. 95). Feyerabend emphasizes this in the last sentence: 'This, I think, follows from a discussion of the paradox of analysis.'⁴ Furthermore, in the present 'Note', Feyerabend does not commit himself to the analytic-synthetic distinction. Feyerabend makes this clear rhetorically: 'But the fact that philosophers who believe in the existence of propositions, concepts, and the like . . . ' (p. 94). Moreover, as he attacks those who want to have a philosophy that is both analytic and scientific at the same time, *they* are the ones who are committed to a concept of analyticity.

Preston's reading of Feyerabend's short 'Note' differs substantially from ours. On Preston's view, Feyerabend 'set out one conception of [philosophy] in one of his earliest papers' (p. 9), namely scientific philosophy. This is why Preston takes Feyerabend's paper as the starting point of his book. It is indeed reasonable to start a monograph on a philosopher with an outline of that philosopher's basic view of philosophy, and it is important to get it right. According to Preston, Feyerabend argues for the necessity of making a choice between scientific and analytical philosophy (*ibid.*). The argument Preston ascribes to Feyerabend is obscure, and moreover, it certainly is not Feyerabend's argument.⁵ There are a number of points

⁴It may be objected that Feyerabend does criticize analytic philosophy in the footnote attached to the sentence in italics just cited where he writes: 'But the ideal of pure analysis which only "exhibits" . . . the rules of the underlying language is still prevalent among so many philosophers that it must be criticised.' But this sentence, in the given context, does not criticize analytic philosophy as such, but as the previous sentence states, only that 'many so-called [sic!] analytic philosophers, when analysing, do change the language they use and do improve it'. Feyerabend only criticizes the misapplication of the label 'analytic'.

⁵The argument is obscure because after having explained what Feyerabend means by 'scientific' in this context, Preston continues: 'But if we assume that philosophy is scientific in this sense *and* that it consists of analyses (of language, for example), none of its propositions could express discoveries'. This is a strange sentence because the consequence does not really follow from the conjunctive antecedent, unless in the formal sense that the antecedent is inconsistent (*ex falso quodlibet*). But then there

to be made about this reading, which we will discuss in turn. Firstly, Preston infers from Feyerabend's dictum '*philosophy cannot be analytic and scientific . . . at the same time*' that '[p]hilosophers must choose between analytical and scientific philosophy' (*ibid.*) (i). According to Preston, in this situation of forced choice, Feyerabend opts for scientific philosophy because 'he . . . denied that analytical philosophy was of any value' (*ibid.*, p. 10) (ii). In addition, Preston remarks that scientific philosophy 'is problematic' (*ibid.*) (iii). Lastly, Preston ascribes an early commitment to the analytic/synthetic distinction to Feyerabend, and claims that he must have had an early change of mind about it (iv).

For two reasons, (i) is not a valid argument. First, this is because the time index in the premise 'at the same time' is dropped in the consequence drawn from it. Second, the forced choice Preston presents implicitly assumes that there exist no modes of philosophy other than analytic and scientific philosophy. Thus, Feyerabend's dictum allows a philosopher to practise analytic philosophy (say for an hour or two), then to switch to scientific philosophy, and then to a purely normative methodology (if there is such a thing), as opposed to what Preston claims.

In the 'Note', Feyerabend does not claim that analytic philosophy has no value as asserted in (ii). As shown above, Feyerabend does not commit himself to any form of philosophy in the 'Note'; nor does he need to, despite the fact that he practises analytic philosophy in the 'Note'. The impression that Feyerabend dismisses analytic philosophy in this 'Note' may arise from Feyerabend's statement that it '*amounts to nothing but to a reconstruction of the process of learning the synonyms of our language*' (p. 95). However, according to Feyerabend this does not preclude analysis from leading to discoveries (as denied by the paradox of analysis), even if these discoveries do not consist in additional knowledge about a certain subject matter (*ibid.*).

Scientific philosophy, in the given sense, may indeed be problematic as stated by (iii). However, this fact is irrelevant in the given context.

Finally, if Feyerabend's argument is read as an *ad hominem* argument, then even though he uses the analytic/synthetic distinction, he is not committed to it as stated by Preston in (iv). Feyerabend takes up a distinction that is used in the discussion of the paradox of analysis. He tries to defuse the paradox without even entering

would be no reason for Preston to continue: 'This is because of the paradox of analysis . . .', because no further argument would be needed. Moreover, this latter part of Preston's presentation of Feyerabend's argument is quite strange because Feyerabend explicitly argues, in this 'Note', that the paradox of analysis collapses. Feyerabend's solution purportedly 'degrades the paradox into a relatively trivial misunderstanding or into the result of a purely verbal quarrel between different ways of defining "synonymous"' (p. 94). Preston seems to realize that the use of the paradox in his presentation of Feyerabend's argument is somewhat problematic. He attaches an endnote to it stating that 'Feyerabend's own "solution" to the paradox . . . implies that a correct analysis does not convey any knowledge which one does not already possess' (p. 95). But on the basis of Feyerabend's solution of the paradox, the conjunctive antecedent (of Preston's presentation of Feyerabend's argument) is also inconsistent. Again, no sound argument results. Lastly, to see that the argument Preston presents cannot be Feyerabend's, it is enough to notice that it does not even make use of the distinction between semantic and pragmatic contexts which is central to Feyerabend's argument as shown above.

into a discussion of this particular presupposition. Such a discussion is unnecessary in the given context because means that are seen as less controversial suffice.

3.

In this section, we take issue with Preston's basic project, which is aimed at explicating Feyerabend's 'Model for the Acquisition of Knowledge' and showing how scientific realism and the other central themes hang together within in it. To this end, we will draw from Feyerabend's 'Reply to Criticism', of 1965:

my aim has been to present an abstract model for the acquisition of knowledge (1*), to develop its consequences, and to compare these consequences with science (Feyerabend, 1965, p. 223).

Preston also cites this (and only this) text when he introduces Feyerabend's 'Model' (p. 13). However, the note (1*) has not been discussed by Preston. It reads:

Perhaps unintentionally he [Smart] creates the impression that a new philosophical position is in the making, a kind of neo-realism, and that I have contributed to its development. Such an impression would be both incorrect, and unfortunate . . . It would increase the tendency to disregard the connexion between philosophy and the sciences which is so essential for the development of our problem . . . (Feyerabend, 1965, p. 249)

We think that this passage contains a criticism of Smart which, in our view, could also be directed at Preston's project. First, Preston does attempt to characterize 'Feyerabend's unorthodox version of scientific realism' (p. 30 and pp. 61ff), and what he calls Feyerabend's 'Super Realism' (pp. 142ff), as if some new position were in the making. Second, Preston does try to incorporate these two into Feyerabend's 'Model', and in doing so struggles with, and indeed rejects, Feyerabend's conception of the connection between philosophy and science. For example, Preston claims that:

Feyerabend took knowledge of scientific statements, rather than understanding, insight, wisdom, conceptual clarity, or enhanced experience to be the aim of science and therefore of scientific philosophy, and this sets the tone of his early work (p. 13).

But neither Preston's presentation of Feyerabend's conception of the connection between philosophy and science, nor the contrasts Preston mentions capture what Feyerabend claimed was the goal of this 'Model': '[such models] form a basis for the *criticism* as well as for the *reform* of what exists' (p. 223, Feyerabend's italics).

Instead of trying to investigate the connection that Feyerabend claims is so important to the development of his problem (which we will briefly attempt in Section 4), Preston criticizes Feyerabend for trying to pass off realism as a component of science, identifying it rather as a philosophical view (p. 73). Shortly thereafter, Preston even goes so far as to claim that Feyerabend did not 'seriously address the question of whether mature science could really follow the pattern of pre-Socratic intellectual activity', and concludes that Feyerabend is guilty of

importing the scientific realism and theoretical pluralism of the Ionian philosophers of nature from philosophy into science (p. 79). But in his 1961 *Knowledge Without Foundations* Feyerabend considers this issue at length. He continually returns to a comparison of the critical mode of the Ionians with contemporary approaches (science included), and even considers specific examples. One such example is Thales' theory, 'Everything is water'. Feyerabend directly (and 'seriously') compared this theory, that the *arche* of the *cosmos* is water, to 'Heisenberg's non-linear field theory which attempts to explain the thirty-odd elementary particles of today on the basis of some single and all pervading substance' (Feyerabend, 1961, p. 13). Moreover, according to Feyerabend, Heisenberg's theory, 'as Heisenberg explicitly admits, was inspired by the ideas of Anaximander, the pupil of Thales' (*ibid.*).

Furthermore, *pace* Preston, who claims that Feyerabend attempted to provide a purely normative epistemology (p. 15), and that he confused norms and descriptions (for example, p. 17), Feyerabend was keenly aware of the difficulties involved in keeping norms and descriptions separate.⁶ As Preston himself sometimes mentions (for example, p. 100), Feyerabend had a strategy for handling the difficulty. When he considers methodological proposals (such as Nagelian reduction), Feyerabend first shows that a correct description of the history of science does not conform to the proposed rule, and then argues that as a prescription it would place restrictions on the freedom of research necessary for making progress (Feyerabend, 1962).⁷ In fact, the very passage Preston cites (p. 15; Feyerabend, 1962, p. 60) to support his claim that Feyerabend undertook to provide a purely normative epistemology has been taken entirely out of context. Feyerabend had spent the first half of the article arguing that Nagelian reduction cannot be made to conform to actual science. Feyerabend then writes, '*Against this result* it may be pointed out, with complete justification, that scientific method . . . is not supposed to describe what scientists are actually doing. Rather it is supposed to provide us with normative rules . . .' (our italics). With that, Feyerabend opens the normative second half of his argumentative strategy.

4.

What is this 'connexion' between philosophy and science? Why does Feyerabend consider it so 'essential' for the development of the issues he raises? What are those issues? These complicated questions can only be answered very scantily in the remaining space. In order to address them it is instructive to identify the central issue in Feyerabend's early philosophical works:

⁶For example, see Hoyningen-Huene (1995), p. 355, pp. 360–361, and especially pp. 367–368: Two letters written by Feyerabend in which he accuses Kuhn of failing to separate norms and descriptions.

⁷Feyerabend launched similar arguments at 'instrumentalism' (see, for example, Feyerabend, 1964) and 'complementarity' (see, for example, Feyerabend, 1958).

[S]cientific theories are ways of looking at the world and their adoption affects our general beliefs and expectations, and thereby also our experiences and our conception of reality. We may even say that what is regarded as 'nature' at a particular time is our own product . . . *What we need is a guarantee that despite the all-persuasive character of a scientific theory . . . it is still possible to specify facts that are inconsistent with it* (Feyerabend, 1962, p. 45; our italics).

On our interpretation of Feyerabend's early ideas, the central issue concerns the prevention of theories from turning into dogma. This issue is raised by him on a number of occasions (see, for example, Feyerabend, 1958, p. 77, pp. 81–87, p. 104; Feyerabend, 1961, pp. 28ff; and Feyerabend, 1962, pp. 45ff), and is also excellently developed by Preston (pp. 74–79). For Feyerabend, accordingly, the goal of philosophy and science is the improvement through criticism of existing beliefs, whether commonsense or scientific, and no matter how 'self-evident' or crazy they may initially appear (Feyerabend, 1965, n. 3, p. 252). Feyerabend did contrast his conception of philosophy with some forms of analytic philosophy (see, for example, *ibid.*, p. 223), and he did reject the idea that philosophy can only clarify scientific concepts from the sidelines (see, for example, Feyerabend, 1966, p. 9). His early conception of philosophy can be characterized by his insistence that: 'It is time for the philosopher to recognize the calling of their profession, to free themselves from the exaggerated concern with the present (and the past) and to start again anticipating the future' (Feyerabend, 1962, p. 45). Following Popper, Feyerabend traced this attitude to the Ionian philosophers of nature. They, having dethroned the king and taken political responsibility into their own hands, had recognized that social institutions are of human origin and can thus be improved (Feyerabend, 1961, pp. 4–5). According to Feyerabend, our knowledge (scientific and philosophical) constitutes just such a social institution. The philosopher's job is to initiate and participate in its improvement. This, then, reveals why, according to Feyerabend, philosophers of science have to work in close connection with science, and it shows us why this connection is essential to the development of Feyerabend's central concern as outlined above.

We have not defended Feyerabend's ideas and arguments in this essay review. We have argued that Preston has not adequately appreciated Feyerabend's *ad hominem* style of argument or the consequences it has for examining Feyerabend's ideas. On our view, Preston's project is somewhat misguided. Feyerabend warned that this approach to his ideas would inhibit the development of the issues with which he was concerned. Preston dismissed Feyerabend's warning, and his development of the issues with which Feyerabend was concerned suffers accordingly. But even if Preston had succeeded in flawlessly developing Feyerabend's ideas, in our view Preston's arguments and criticisms would still have been somewhat ineffectual. This is because Preston's criticisms begin from the premise that the job of philosophy is to uncover the conceptual truths in our language, while Feyerabend's ideas are premised on the idea that our language and our knowledge, and whatever truths they may contain, are always hypothetical and provisional, and

thus open to criticism and reform. In short, with respect to Feyerabend, Preston's considerations are too concerned with what is, and what was, and not with what could be.

References

- Feyerabend, P. K. (1956) 'A Note on the Paradox of Analysis', *Philosophical Studies* 7(6), 92–96.
- Feyerabend, P. K. (1958) 'Complementarity', *Proceedings of the Aristotelian Society* 58(supplement), 75–104.
- Feyerabend, P. K. (1961) *Knowledge Without Foundations: Two Lectures Delivered on the Nellie Heldt Lecture Fund* (Oberlin: Oberlin College).
- Feyerabend, P. K. (1962) 'Explanation, Reduction and Empiricism', in H. Feigl and G. Maxwell (eds), *Scientific Explanation, Space and Time*. Minnesota Studies in the Philosophy of Science Vol. 3 (Minneapolis: University of Minnesota Press), pp. 28–97.
- Feyerabend, P. K. (1964) 'Realism and Instrumentalism: Comments on the Logic of Factual Support', in M. Bunge (ed.), *The Critical Approach to Science and Philosophy: In Honor of Karl R. Popper* (London: The Free Press of Glencoe), pp. 176–202.
- Feyerabend, P. K. (1965) 'Reply to Criticism. Comments on Smart, Sellars and Putnam', in R. S. Cohen and M. W. Wartofsky (eds), *Proceedings of the Boston Colloquium for the Philosophy of Science 1962-64: In Honor of Philipp Frank*. Boston Studies in the Philosophy of Science Vol. II (New York: Humanities Press), pp. 223–261.
- Feyerabend, P. K. (1966) 'Herbert Feigl: A Biographical Sketch', in P. K. Feyerabend and G. Maxwell (eds), *Mind, Matter, and Method: Essays in Philosophy and Science in Honor of Herbert Feigl* (Minneapolis: University of Minnesota Press), pp. 3–13.
- Feyerabend, P. K. (1981) *Realism, Rationalism and Scientific Method: Philosophical Papers Volume 1* (Cambridge: Cambridge University Press).
- Feyerabend, P. K. (1998) *Knowledge, Science and Relativism. Philosophical Papers Volume 3*, ed. J. Preston (Cambridge: Cambridge University Press).
- Hoyningen-Huene, P. (1995) 'Two Letters of Paul Feyerabend to Thomas S. Kuhn on a Draft of The Structure of Scientific Revolutions', *Studies in History and Philosophy of Science* 26, 353–387.
- Hoyningen-Huene, P. (1999) 'Obituary of Paul Feyerabend,' in D. Lamb, G. Munevar and J. M. Preston (eds), *'The Worst Enemy of Science'? Essays on the Philosophy of Paul Feyerabend* (Oxford: Oxford University Press).
- Oberheim, E. (1997) 'Bibliographie Paul Feyerabends', *Journal for General Philosophy of Science* 28, 211–234 (For an English version see Feyerabend (1998).)