has been that of an invigorating sense of challenge. In trying to meet that challenge I have come away with a better understanding of Feyerabend's philosophy. I am confident that other readers will have similar experiences.

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By Eric Oberheim and Paul Hoyningen-Huene

Feyerabend was a very complex and multi-faceted author and any exposition of his work faces a number of almost insurmountable difficulties. There have been a wide range of reactions to his work, and any book on Feyerabend could not possibly appease everyone. One of the many reasons for the difficulties for explicating Feyerabend’s philosophical ideas is that according to Feyerabend, “good arguments can be found for the opposite side of any issue” which had the consequence that, as Feyerabend himself pointed out, even in his early works, “some articles defend ideas which are attacked in others” (Feyerabend 1981, p. xiv). Preston has narrowed things down as the book is limited to the early Feyerabend. We are offered only a very cursory treatment of later developments in a long career (for example p. 209), an imbalance that betrays Preston’s title. But even in Feyerabend’s early work, it may be a mistake to ascribe any particular position to Feyerabend. The critical component of his conception of knowledge as an historical process (for example Feyerabend 1972), his emphasis on the provisional character of knowledge (for example 1960, p. 334), his praise for Mach (for example Feyerabend 1981, Chapters 5 and 6), and his pluralistic philosophical methodology all suggest that Feyerabend is better understood as developing ideas regardless to allegiance to philosophical isms. It is even tempting to claim that Feyerabend was an ‘anti-isms’ philosopher. Yet instead of trying to articulate, elucidate, and develop the vague ideas and intuitions that can be found throughout Feyerabend’s early work, Preston mainly identifies contradictions and tensions in Feyerabend’s ideas which serve as the basis for an unsympathetic criticism of Feyerabend’s position. Preston seems more eager to find weaknesses that he can criticise than to introduce and help explore Feyerabend’s ideas.
Let us first get some minor formal things out of the way. The book contains two factual errors (pp. 5–6): Feyerabend was at the ETH from 1980, not from 1970, and Feyerabend did not die at home, but in hospital in Genolier, Switzerland. The book lacks sufficient citations: Many claims about Feyerabend’s ideas are left unsupported, and we are left to wonder about their source and accuracy. To illustrate with just three examples (which could be easily multiplied): On the analytic/synthetic distinction we are told, “his (very few) relevant published comments consistently deny its existence, as well as the existence of any class of non-empirical statements” (p. 10). This is not surprising, but deserves close inspection—unfortunately, we are not told where these denials can be found. But Preston also makes claims like “Feyerabend even goes further, insisting that theories tell us about what things are, their very nature, in a world which exists independently of measurement and observation” (p. 61), or “the very worst part of AM, an indefensible relativism with respect to logic” (p. 186) without justification, explanation, or even appropriate citation. (Speaking of logic, incidentally, “All As are B” is not restatable as “Everything is either an A or is not-B” as Preston claims on pp. 26–7).

But let us move on to the substance of the book. Preston does treat several important issues excellently; in particular, the contextual theory of meaning in Section 2.2, the myth predicament in section 5.1, and the comparability of incommensurable theories in Section 6.5. While the myth predicament is well-explicated by Preston, we believe that it is a driving force in Feyerabend’s work from as early as 1958. It is discussed in Feyerabend’s “Science without Foundations” (1961), and it is intimately connected to some of the key issues with which Feyerabend’s was concerned of which ‘progress’ is the most important. In other words, we think that it is more central to Feyerabend than Preston makes it out to be. The section on comparing incommensurable theories rejects the common place belief that incommensurability implies incomparability and documents an important list of Feyerabend’s ideas about how the comparison of incommensurable theories is to be accomplished (p. 117). This also points out that Feyerabend did not see incommensurability as a problem which could not be overcome by scientists.

But at other times, Preston reinforces common misunderstanding of Feyerabend. To take an important example of a widespread mistake, Preston claims that “The most important consequence of the contextual theory of meaning is the incommensurability-thesis” (p. 103, our italics). Yet Feyerabend explicitly tells us that incommensurability “is not an attempt to draw consequences from a contextual theory of meaning” (Feyerabend 1981, p. x, our italics). For Feyerabend, in order for a theory of meaning to be adequate, it must make sense of what is found to be the
case in science, such as those features of science which give rise to what he called “incommensurability”. The features of science Feyerabend tried to capture with incommensurability in 1958 (when the first traces of incommensurability appear, see Preston pp. 103, and Feyerabend 1958b, p. 82) include the ‘mutual exclusion’ he found in his analysis of duality. At the introduction of the term “incommensurability”, Feyerabend drew from the example of impetus and momentum (Feyerabend 1962, pp. 59–69). It is these kinds of features of science, and not abstract philosophical considerations, that led Feyerabend to incommensurability. Sometimes Preston’s objections ask for abstract explanations which Feyerabend is not willing, or able, to provide (for example p. 121 and p. 112). Yet Feyerabend illustrated the respective issues with concrete examples. A consequence is that some of Preston’s criticisms seem mechanical and uninterested in making sense of Feyerabend’s ideas.

For the most part, Preston’s analysis is very negative, and this throughout the book. To take a single paragraph as a dramatic example, Preston writes: “Feyerabend’s defence of materialism must, I believe, be judged as ineffective”. And then proceeds “He does not succeed ... He fails ... he fails ... His diagnos[e]s ... are problematic ... his arguments ineffectual...he misunderstood ... leaping prematurely ... he also left undefended ... failed to rebut ... evades the issue ... makes no sense’... ignore[d] the conceptual problem ... did not show ...”. And finally Preston concludes “his arguments should not convince” (pp. 162–3).

Preston’s also sometimes seems to adopt an authoritative tone while dismissing Feyerabend, as if his is the final word. Moreover, this is sometimes combined with arguments that are much too quick to dismiss Feyerabend’s ideas. For example, in a few lines Preston rejects Feyerabend’s ideas about the direct introduction of theoretical terms simply claiming “Our material-object language is here to stay” (p. 150). Another example is Feyerabend’s considerations about dealing with philosophical problems (like the mind/body problem) by initiating a conceptual change. Preston claims “it is hard not to see the rest of it as confused. To try to deal with philosophical problems by initiating a conceptual change will just ensure that those problems are left behind unsolved” (p. 152 our italics, see also pp. 153, 157). But this process of re-conceptualisation with the consequential dissolution of problems is not uncommon in the sciences; for example, some tricky conceptual problems of the old Bohrian atomic model simply disappeared in Schrödinger’s formulation of the new quantum mechanics. Of course Feyerabend was aware of the role such reconceptualisations could play in science. For example, while discussing Niels Bohr’s notion of ‘progress’, and what Bohr thought was inhibiting it in quantum theory, Feyerab-
bend writes “von Neumann’s approach, according to him [Bohr], did not solve problems, but created imaginary difficulties, such as the problem where the ‘cut’ between the observer and the things observed should be placed” (Feyerabend 1981, p. 274, footnote 64). It is worth mentioning that in this publication (p. 274) Feyerabend cites a passage from S. Rozenthal (ed.), Niels Bohr, His Life and Work as Seen by his Friends (New York, 1967). This chapter of Feyerabend’s Realism, Rationalism and Scientific Method (Feyerabend 1981) originally appeared in two parts (Feyerabend 1968, and Feyerabend 1969a) but was “a belated after effect” of a conversation with Weizsaecker in 1965 (see Feyerabend 1981, p. 247).

Some of these kinds of conceptual problems that can confront a scientist in his science are, according to Feyerabend, philosophical. Feyerabend cites Heisenberg: “Bohr was primarily a philosopher” at the beginning of this section (Feyerabend 1981, p. 269). Then he writes: “Looking at Bohr’s method of research we see that technical problems, however remote, are always related to a philosophical point of view” (Feyerabend 1981, p. 129). And on page 271, Feyerabend argues that Bohr’s criticism of Sommerfeld “is epistemological, not physical in the traditional sense”. Thus, reconceptualisation can and does play a role in solving problems in science, and some of these kinds of problems are, according to Feyerabend, philosophical by nature. It in no way seems obvious that such a development, the use of reconceptualisation in order to dissolve conceptual problems, must be ruled out in philosophy in general, and the mind/body problem in particular. Moreover, in contra-distinction to Preston, who draws on almost nothing from actual science, Feyerabend, especially in his earlier works, was working in close contact and heavily drawing from the sciences and their histories.

One source of confusion in Preston’s exposition of Feyerabend concerns realism. Feyerabend’s realism is far from the norm. Preston should recognise this, given that according to Preston “the core of Feyerabend’s version of scientific realism” consists of the idea that, and he cites Feyerabend: “[t]he interpretation of an observation language is determined by the theories which we use to explain what we observe, and it changes as soon as those theories change” (see Preston, p. 30 who cites Feyerabend 1981, p. 31). Normally realism has the flow of meaning exactly the other way around, namely, the meaning of an empirical term is fixed by the way the world is (its objects, nature), not by our theories about the worlds. That is why, for the scientific realist, theoretical change does not necessitate meaning change, namely, the principle of meaning invariance Feyerabend so forcefully attacked in his early work (for example Feyerabend 1962). But although Preston
identifies this as the core of Feyerabend’s scientific realism, it is neither explained nor even mentioned that this ‘version’ of scientific realism directly contradicts what is usually understood by scientific realism.

Preston claims that Feyerabend endorsed “conjectural realism”, but that “he never really embraced the important Popperian claim that our theories exhibit increasing correspondence with reality (‘verisimilitude’, or convergence to the truth)” (p. 61). But Preston seems to understand progress in exactly this way “to say that we have made progress . . . [is to say] we move closer to the truth” (p. 153). And later, Preston even seems to contradict himself claiming: “By ‘progress’ Feyerabend usually . . . means progress towards the truth” (p. 153, our italics). With this conception of ‘progress’, it is almost impossible to make sense of Feyerabend’s arguments without developing some strange new conception of truth which is determined by our theories and not how the world is.

Preston seems to struggle with Feyerabend’s realism and the confusions generated pervade the entire book. Take for example:

[F]or Feyerabend, the nature of observation, the nature of meaning, and the relation between theory and observation are all determined by our decision to adopt particular theories about those matters. It is hard to see how this can be squared with the realism that Feyerabend simultaneously professes, for it subverts the idea that these ‘theories’ of observation and of meaning are about mind-independent phenomena, phenomena whose natures do not depend on our decision (p. 49, our italics).

As is so often the case in this book, instead of trying to tease out Feyerabend’s ideas on this central issue, the apparent tension in Feyerabend’s thinking is quickly turned into an attack on Feyerabend’s ‘position’.

Of course, Feyerabend’s own admission is cryptic “The realism of vol. 1, ch. 2.6, ch. 4.6f, chs. 9 and 11 [these are Feyerabend, 1958a, 1962, 1969b, 1964 respectively] invites us to reject common sense and to announce the discovery: objective reality has been found to be a metaphysical mistake” (Feyerabend 1981, p. xii, italics added). But it certainly sounds much less than what is commonly understood by ‘realism’ in philosophy of science. Although there is not enough space here for an adequate development of Feyerabend’s considerations about realism, we suggest that a useful distinction is that between “scientific realism and philosophical realism” (in the title of the Introduction of Feyerabend 1981).
On the one hand, the scientific realism which Feyerabend argues for in the context of the positivism/realism dispute is a research strategy, or heuristic device (Preston makes this point, p. 63). This concerns practices or ‘realistic procedures’ (Feyerabend 1958b, p. 104) of research in the form of interpretations of quantum mechanics. This dispute is over which interpretations will help and which will hinder ‘progress’. Here, by ‘progress’ Feyerabend means ‘reconceptualisation’. According to Feyerabend, reconceptualisation is necessary in order to relieve the conceptual tension caused by a realistic interpretation of duality. On the other hand, his philosophical realism is obviously not about how best to continue scientific research. It is also not very realistic in many respects, and very difficult to capture in a few lines. First of all, Preston illustrates nicely that in connection with Wittgenstein, the contextual theory of meaning conflicts with some realist conceptions of meaning which leave open the possibility of meaning-scepticism: the worry that if meanings are determined by reality, then it is possible that our terms could have meanings of which we are wholly unaware. This “should be regarded as a decisive objection to them” (p. 27). This means that “the meaning of an expression cannot transcend our theories” (p. 27). Far from a causal theory of reference which purports to anchor empirical concepts to a mind-independent reality, the meanings of empirical concepts are determined by the theories in which they are found. This contextual theory of meaning which allows theory a determinate role is more attuned to a form of Kantianism in which the world we experience is conceptualised by the theories we use.

This Kantian influence on Feyerabend’s philosophical ideas is not restricted to semantics and it can be found as early as 1958 when it was clearly drawn from Feyerabend’s interpretation of Bohr’s own complementarity thesis. For example, Feyerabend writes “According to Bohr, however, even our experiences (and, consequently, our ideas) are organised by categories, or ‘forms of perception’ and cannot exist without these forms” (Feyerabend 1958b, p. 81). Feyerabend proceeds to claim that certain facts cannot even be stated without the help of certain theories (Feyerabend 1958b, p. 82). Moreover, in 1960, Feyerabend argues that “the facts of experience ... are not regarded as unalterable building stones of knowledge; they are regarded as capable of analysis” (Feyerabend 1960, p. 327), and he rejects accounts of knowledge which suggest that “Knowledge is a natural process which leads to a mirroring, in the head, of the properties of the universe (Feyerabend 1960, p. 335). We have pointed out elsewhere that his adoption of Kant in conjunction with a critical attitude is explicitly stated in 1962 (see Oberheim and Hoyningen-Huene, 1997). This is, of course, much too quick, but it is our contention.
that this Kantianism is, and remains, a central component of Feyerabend’s notion of ‘progress’ right through to *AM*. And ‘progress’, or more precisely not inhibiting progress, is the basis for many of Feyerabend’s argumentative strategies, as Preston points out (for example p. 100).

In the middle of all this Kantianism of 1958b, the sheer fertility of Feyerabend’s texts is open to inspection and it is exactly this fertility that makes the early Feyerabend so exciting. For example, here we find a clear and precise formulation of ‘mutual exclusion’, a key component of incommensurability. We find this new, curious mix of descriptive claims in normative epistemology (see Preston for a criticism of it pp. 14–17), an early example of the ‘historical philosophy’ in the form of a brief but poignant argument drawing on the transition from Newtonianism to relativity theory (p. 83), and a statement of ‘historical accident’ (pp. 82, 84) which will develop throughout the sixties and seventies and appears over and over again. We also find a brief consideration of the myth predicament (see Preston, Section 5.1 and Feyerabend 1958b, p. 83) in the form of a discussion of the transition away from myth (the abandonment of the idea of the devil). And in the midst of all of this, Feyerabend writes: “He [the physicist] will consider as appropriate the search for a new conceptual scheme” (Feyerabend 1958b, p. 78, our italics). This should suffice to show that Feyerabend has already set a grand stage by 1958 which was then played out over at least the next two decades.

And although one cannot possibly treat all of the richness Feyerabend had to offer, one might also justly complain that even given Preston’s narrow focus on the early position, the book is not especially informative about how Feyerabend’s early ideas influenced his later work. For example, Feyerabend challenges the applicability of universally valid methodological rules, something for which he later became famous, already in 1960. There is no space here to develop these ideas, and how they reflect the exciting novel conception of ‘knowledge as an historical process’ undertaken by Feyerabend: Ideas which devalued arriving at the truth, or building philosophical ‘isms’, in favour of critical discourse as a necessary ingredient of human liberty: Ideas that begin with the fall of the most dominant philosophical school this century (the Vienna Circle), and developed along side a revolution in the historiography of science: Ideas by a physicist and astronomer who was versed in contemporary scientific issues: Ideas by a philosopher and historian who introduced an extremely wide range of material that had been previously ignored into the philosophy of science (see Hoyningen-Huene 1997).

To conclude, in a series entitled “Key Contemporary Thinkers” we expected that the author should undertake an exposition of what it was about Feyerabend that made him a key contemporary thinker. This would
involve emphasising and explicating the novelty and provocative character of Feyerabend’s ideas, combined with a careful hermeneutic reading of the text, aimed at understanding the problems Feyerabend tried to tackle and how Feyerabend tried to overcome apparent tensions in those ideas. Instead, Feyerabend is predominately treated as an old-style Popperian, and we are offered authoritative criticisms of Feyerabend’s claims (almost every chapter concludes by summarising Feyerabend’s failures to establish his claims.) In short, instead of trying to learn something from Feyerabend and explaining why Feyerabend’s philosophy is so exciting, and perhaps fruitful, Preston has pointed out apparent tensions which merely serve as the basis of criticisms of Feyerabend’s ideas (which are at best only partially understood) in order to reject them.

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Author’s Response

By John Preston

My book does not allot equal coverage to all parts of Feyerabend’s Oeuvre. In writing a critical introduction to his work, I thought it better to concentrate on earlier and middle-period material, about which I felt I had most to say. My own list of ‘other possible topics’ which I would like to have discussed in the book is lengthy. In retrospect, I particularly wish that I had been able to incorporate more on Feyerabend’s last work. The important material he published during what I consider to have been something of a renaissance (from 1989 onwards) certainly merits discussion. Although this material is covered at some length (in Preston 1996, 1997a, 1997b, and 1998), it still awaits a full critical evaluation. All my review symposiasts raise excellent issues, and I would like to thank Hoyningen-Huene and Oberheim (henceforth H-H & O) for drawing my attention to some factual errors which will be corrected in the forthcoming Italian edition of the book. Here I will only be able to tackle some of what I perceive to be the most important issues.

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