reduction of intentional explanations as a class to causal explanations does not touch the issue of whether individual reason explanations are such that, if true, they can count as causal explanations – and what may count as evidence for that. Thus readers may applaud the general anti-reductionism of Faye's account and yet remain puzzled as to his position on the causal dimension of individual intentional explanations.

Given Faye's notion of explanation, of course, the project of naturalization as such remains unaffected. Concerning issues particularly prominent in the humanities as defined by him, Faye does sterling work in detailing, in Chapter 4, the nature of interpretational problems (when we are confronted with a problem of identifying the reference or the relevance of a set of representations); in Chapter 5, on defending the idea that in the interpretation of artistic products the intention of the producer matters; and, in Chapter 6, on how the problem of evidential underdetermination plays out in interpretation (importantly, only as far as the works in question communicate a cognitive content). Faye's neomodernism, contrasted in Chapter 7 to postmodernism, takes on board the advances afforded by the historical and social turns within the philosophy of science since the demise of orthodox logical positivism. So educated, it presents to us attractive options on how to embrace, within the umbrella of a "unified science" that seeks unity in diversity, a collection of highly distinctive disciplinary perspectives. Faye's efforts to remedy the postmodern condition deserve the widest critical support.

Thomas Uebel (Manchester)

Paul Feyerabend, *The Tyranny of Science*. Edited by Eric Oberheim. Cambridge: Polity Press 2011. Pp. xii + 153. ISBN 978-0-7456-5189-7 (hardcover) €54,00, ISBN 978-0-7456-5190-3 (paperback) €15,60.

A red depiction of the Doomsday Clock, signalling only three minutes to midnight, glows on the book cover's black background. Bomb rockets are seen falling from the sky across the Clock's face. The skyline is in flames; destroyed buildings and sketchy ruins are visible. Mushroom clouds rise at a distance. Beneath the Clock, the reader is greeted with the book's title: *THE TYRANNY OF SCIENCE*, whose whitish letters are shaded with washed-out red splatters of blood. Underneath, at the bottom of the cover, the author's name, *PAUL FEYERABEND*, finally appears, the letters now uniformly filled with the same washed-out red colour.

Judging from the cover, the intended audience will be deeply disappointed by the book's content: The author envisions no alarmist end-of-the-world scenarios

in it and he doesn't argue anywhere that science will lead to doomsday. The book is an edited transcription of four lectures on the arguably more moderate, but no less complex, topic 'What is knowledge? What is science?' given by Feyerabend in May 1992 at the University of Trento, Italy. (I will refer to them simply as "lectures" from now on.) While it is easy to tell what this book isn't about, it isn't as straightforward to tell what this book is actually about. Through the course of his lectures, divided into four chapters, Feyerabend tackles a seemingly chaotic wealth of topics, ranging from Clinton's then President-elect economic policies to a detailed analysis of Homeric poems. It is therefore excusable, although not helpful, that the chapter titles summarize the content only tangentially. Each chapter is followed by a Q&A session with the audience, where Feyerabend engages with questions related to his lectures, as well to his previous works. The content of the lectures themselves overlaps heavily with the likewise posthumously published collage *Conquest of Abundance*[1] – an unsurprising fact given that Feyerabend had been working on several articles included in it at the time he gave the lectures. To the avid reader of Feyerabend's works, then, I can promise no new major insight by reading *The Tyranny of Science.*

* * *

The main recurring theme of the book is that in order to understand science we have to look beyond science, both topically and temporally. Feyerabend tries to make the case that science is a specific, although not uniform, blend of practices found also in other human activities; that it started, one might say, as an historical accident in ancient history; and that practical knowledge is key to the inner working of science. To develop these claims Feyerabend adopts a particular historicist vantage point, which could be aptly dubbed a state of "artificial naivety" in the vein of Ernst Mach,[2] rejecting the ready-made and evident outlook of the phenomenon under scrutiny. The specific phenomenon under scrutiny here is science: Feyerabend asks why science could develop in the first place and gain such a wide acceptance. He rejects the ready-made answer – "because of its success" – with two counterarguments: First he argues that the track-record of science neither explains nor warrants the unquestioned epistemic and social acceptance, even social prestige, we witness today. Secondly, he argues that the particular form of rationalism underlying scientific knowledge was developed and gained recognition at a time when its success was neither established nor foreseeable. Science becomes a genuine puzzle, which is in need of explanation.

The first counterargument is developed in the second chapter by introducing the distinction between "a performance and the ideology that encourages the

1 *Conquest of Abundance: A Tale of Abstraction Versus the Richness of Being*. Ed. by Bert Terpstra. Chicago: University of Chicago Press 1999.

2 "Künstliche Naivität", cf. Ernst Mach, *Erkenntnis und Irrtum: Skizzen Zur Psychologie Der Forschung*. Leipzig: Barth 1905, p. 15. Transl. *Knowledge and Error: Sketches on the Psychology of Enquiry*. Dordrecht: Reidel 1976.

performance or seems to be supported by it" (37). Despite what the book's title might suggest, Feyerabend does not criticize science as an epistemic enterprise, nor does he deny that it is epistemically successful; he is genuinely fascinated by it. He criticizes the "ideology" of science, i.e. the pretension that the success of science warrants the extension of a "scientific world view" (36) across most or all domains of human thought and agency. In Feyerabend's vocabulary the "scientific world view" does not denote scientific rationality; it denotes a misleading self-conception of scientific rationality, ironically quite like what Otto Neurath criticized with his notion of "pseudorationalism".[3] Science as an epistemic enterprise works despite the "scientific world view", not because of it. The expansion of the "scientific world view" is, however, instrumental to the expansion of science *as a social enterprise*, in that it legitimizes the privileged position of science in the social world on a global scale. Then, the author argues, it may become a threatening force, in that it restricts the variety of conceptions of rationality in other domains of human agency. Here one finds again his notorious conclusion that "you can criticize science without becoming a scientist yourself. More especially, you can criticize scientific demands for more money, more power, greater influence in politics and especially in education – without becoming a scientist. A democratic criticism of science not only is not an absurdity – it belongs to the nature of knowledge" (36). It's worth noting that his previous strictly anti-interventionist policy aimed at the preservation of closed traditions and cultures – a cornerstone of his previous relativist standpoint – is definitely abandoned in favour of a collaborative model: "What we need therefore, is not an increasingly aggressive application of science that treats locals as if they were idiots; what we need is a closer collaboration between experts and the people whose surroundings the experts want to judge, change, improve" (48-9).

The second counterargument opens up a fascinating window onto the history of ideas, with a particular focus on ancient Greek philosophy, in which Feyerabend tracks the evolution of different conceptions of apt reasoning connected to different notions of knowledge. Why an analysis of ancient Greek philosophy and not, say, of philosophy in the early modern period as a source of the scientific revolution? Since the mid 1960s Feyerabend had been increasingly interested in what he called "the rise of rationalism" in the ancient history of ideas. Through the course of a decade this interest developed into a full-blown research project, planning as much as seven volumes (!) devoted to a detailed chronological study of the rise and evolution of "Naturphilosophie" (natural philosophy), beginning with cave paintings and ending with quantum theory. As one might suspect, the

3 "Pseudorationalismus", cf. e.g. Otto Neurath, "Die Verirrten des Cartesius und das Auxiliarmotiv: Zur Psychologie des Entschlusses", in: *Jahrbuch der Philosophischen Gesellschaft an der Universitat zu Wien*, 1913, pp. 45-59. Transl. "The Lost Wanderers of Descartes and the Auxiliary Motive (On the Psychology of Decision)", in: *Philosophical Papers 1913-1946*. Ed. by Robert S. Cohen and Marie Neurath. Dordrecht: Reidel 1983, pp. 1-12.

project was never completed. The available typescript of the first volume remained unpublished and the whole project was abandoned in the late 1970s[4] – unfortunately, I might add, because *Against Method*'s main claim that the rationality of science is incompatible with its "rational reconstruction" leaves open at least two options: The failure of standard accounts of rationality to account for science and its progress "means either that there cannot be any discoveries unless one leaves the house of reason, or that the house of reason is very different from what philosophers and other idea-mongers make it out to be" (112). Unfortunately, the sole publication of *Against Method* lent credibility to the idea that Feyerabend himself went with the first option, instead of hinting at his true intentions of giving a long and detailed account of which way(s) "the house of reason" might differ from formal philosophical accounts.

Even if the monumental project was abandoned, the topic of the rise of rationalism and natural philosophy continued to permeate Feyerabend's research and publications ever since, as witnessed also in the present book, particularly in the third chapter. Feyerabend diagnoses a widespread belief of the primacy of theory over practice in science and tries to show how this belief came about. The belief "which is taken for granted by many scientists and philosophers has very old origins. Actually, it has a double origin. It has an *intellectual origin* in the groups that started Western rationalism and a '*primitive*' origin in the myths that preceded it." (68) Through Homeric poems and the writings of pre-Socratic and later philosophers, Feyerabend tries to convey a picture of how different notions of rationality were 'at work' in the activities of politicians, rhapsodists, carpenters, rhetoricians, priestesses and philosophers in classical antiquity. Accordingly, different styles of reasoning and differing conceptions of what a "compelling argument" might be competed with each other, establishing boundaries between different domains and occasionally crossing them. From here Feyerabend tracks the formation of a canon of rationality tied to a specific self-conception of expertise, later to enter science and its "ideology". Alongside the 'local' expertise of the craftsman rooted into practice (different crafts require different expertise), a kind of 'general' expertise developed, in which an abstract, and therefore generalizable, notion of knowledge could gain currency, purportedly applicable across different domains. Feyerabend diagnoses the birth of a universal entitlement put forward by the new self-proclaimed "experts", which eventually would give rise to the "ideology" of science. He is openly critical of this early development, claiming that different ideals of knowledge are tied to different social and political outcomes. He doesn't shy away from professing his own sympathies: "I am on the side of practice because it seems to be more democratic, but I realize that theory can improve practice, only, this is a complicated matter and not easily understood" (120). His main point, as I understand it, is that an abstract notion of knowledge, namely theoretical knowledge,

4 The German typescript has been published in the meantime: *Naturphilosophie*. Ed. by Helmut Heit and Eric Oberheim, Frankfurt/Main: Suhrkamp Verlag 2009. An English translation is forthcoming.

is necessary to science, but not sufficient, as science only succeeds embedded in specific practices.

Particularly in the fourth chapter Feyerabend invites the reader to rethink the relationship between the empirical and the theoretical dimensions of human agency, science being one such activity among many. One claim is that the theoretical dimension is but a kind of particular practice. In the particular case of science "the opposition between theory and experiment is not an opposition between theory – understood as Platonic ideas – and a moving and partly subjective practice; it is an opposition between two kinds of (moving and subjective) practice, the one applied to things, the other applied to formulae" (124). On the other hand, Feyerabend re-evaluates the domain of practical knowledge: It is not just a domain of mechanical procedures, but also a realm of practical abilities and proper, albeit tacit, knowledge. Science without such abilities would be wishful thinking, a void project at best: "The knowledge we claim to possess, the very general knowledge provided by modern physical theory included, is an intricate web of theoretical principles and practical, almost bodily abilities and it cannot be understood by looking at theories exclusively." (108) Science is, therefore, best understood as a theoretical and practical craft.

* * *

The editorial history of Feyerabend's lectures is somewhat convoluted: A transcription of the recorded lectures had been made available to Feyerabend, who prepared an edited typescript for publication. This typescript first appeared in a posthumously edited Italian translation, which was followed by an unauthorized but tolerated German translation.[5] Eric Oberheim, the editor, is to be lauded for taking up the job of finally making available the original typescript to the English reading audience.

That the lectures are now available under the misleading title *The Tyranny of Science* says more about the publisher's marketing intent to cash-out on Feyerabend's anti-science image than about Feyerabend's authorial intent. Given that Oberheim is the author of a comprehensive book on Feyerabend's philosophy[6] devoted not least to demystify Feyerabend's anti-science image, it is most probably the publisher that should be blamed for these unfortunate marketing decisions. The book is prefaced by an introduction by the editor, giving a good overview of Feyerabend's complex philosophical career and informing the reader of the newest developments in the Feyerabend-scholarship, while being partial to the editor's interpretation of Feyerabend as a pluralistic thinker struggling against conceptual conservatism. The book also contains a helpful index at the end. Given Feyerabend's erudition and the fact that the original typescript lacked any references, the editor did a good job in providing footnotes with additional information on

5 *Ambiguità e armonia: Lezioni trentine*. Roma: Laterza 1996; *Widerstreit und Harmonie: Trentiner Vorlesungen*. Hrsg. von Peter Engelmann. Wien: Passagen Verlag 1998.

6 Eric Oberheim, *Feyerabend's Philosophy*. Berlin: De Gruyter 2006.

public figures mentioned and world events alluded to. What is missing, however, are references informing the reader about explicit and implicit allusions to ancient and current literature disseminated throughout the book. There are literally dozens of implicit and explicit references, which the reader might want to explore further, but for which no bibliographic information has been provided.

A final thought on the very publication of Feyerabend's lectures in print: Particularly in the first chapter Feyerabend is keen to suggest an historical approach as a way to resolve the puzzle of science's predominance in today's world. This judgment should not come as a surprise, given that Feyerabend is among those credited with bringing about the historical turn in the philosophy of science. However, in this book he distances himself from any means of systematic presentation within historical analysis itself: "Strictly speaking my lectures will be fairytales woven around events that are vaguely historical" (13); "we have to go into history and, with that, storytelling" (113). As should be clear from Feyerabend's attempt at writing a colossal work on the history of ideas, this was not always his understanding of historiography. Considering that the content of the lectures overlaps with already available books by the author and that Feyerabend's live performances was one of his strongest feats, there might have been a good case to be made for publishing the original tapes, rather than an edited transcription.[7] It is within the setting of a live performance that "history as storytelling" might actually make sense and persuade us.

Daniel B. Kuby (Wien)

Paolo Parrini, *Il valore della verità.* Milano: Guerini e Associati, 2011, pp. 253.

This volume by Paolo Parrini collects eight independent essays covering a long period of studies from the 1970s to more recent years and now partially revised. The contributions inquire into some of the major themes concerning the theory of knowledge and can be grouped as follows: Kant's perspective, focusing in particular on the meaning of the synthetic a priori and its manifold interpretations (I, IV, VIII); the main approaches to epistemology like conventionalism, holism, metaphysical realism and radical relativism (II, III, VI, VII); more general and meta-philosophical reflections on the risks deriving from both absolutism and nihilism (V). Parrini's essays share the common purpose of outlining an alternative

7 A short passage of these lectures is available in a published collection of original recordings, mostly in German. Cf. *Wissenschaftstheoretische Plaudereien: Originaltonaufnahmen 1971-1992*. Hrsg von Klaus Sander. Audio-CD, 60 Minuten. Begleitbooklet, 24 Seiten. Berlin: Suppose Verlag 2000.