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(TRANSLATED FROM THE GERMAN BY
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Paul K. Feyerabend

An Obituary

Paul Feyerabend was born on January 13, 1924, in Vienna. He died of an inoperable brain tumor almost a month after his seventieth birthday, on February 11, 1994, in Genolier in the French-speaking part of Switzerland.

Feyerabend was raised in Vienna in less than affluent conditions.¹ He was a very good and inquisitive pupil with many diverse interests. From his early school years, he studied textbooks on university-level mathematics, physics, and astronomy. His lifelong love for music also began in his youth. He played the accordion, took violin lessons, fell in love with opera, sang in a mixed choir, and even took singing lessons in a conservatory. After his high school final exams in the spring of 1942 he was drafted into labor service (Austria was 'unified' with the Third Reich in 1938) and by the end of 1942 he was drafted into the army. After several tours at the front, in January 1945 Feyerabend was hit in the spine by a machine-gun bullet. Thereafter, he was paralyzed from the waist down. After a long time in a wheelchair, he was finally able to walk on crutches. Throughout his life he suffered periodically from intense pain, and he could endure many of his public appearances only under large doses of painkillers, although he never made a big fuss about it. Even in his autobiography, there is almost no mention of the great pains he had to endure.

In 1945 Feyerabend began singing lessons again, at the Weimar Music Academy, and studied theater science. Beginning in 1946, he studied in Vienna: first history and sociology, then physics, mathematics, and astronomy. He also attended courses in other disciplines. In 1948 he visited the Alpbach Forum for the first time. This event takes place annually and includes seminars, lectures, symposia, and cultural events. In the course of his life, Feyerabend visited Alpbach about a dozen times, first as a student, then as a lecturer, and finally three times to head seminars. In 1948 in Alpbach he became acquainted with Karl Popper, with whom at first he became friends, but from whom he turned away in his later years. His interest in the theater also brought him in contact with Bertolt Brecht who offered him a job as a production assistant in Berlin, which Feyerabend declined.

4 *The Worst Enemy of Science?*

For a long time, Feyerabend said that this was the biggest mistake of his life. Later, because of the kind of people around Brecht, he was no longer so sure. In the late 1940s, Feyerabend founded a philosophical work group together with other students mostly of natural science or engineering. He was perceived as the student speaker. Later the group was named the 'Kraft-Kreis' after its academic leader, Viktor Kraft. Among its invited guest speakers were Elizabeth Anscombe, Georg Henrik von Wright, and Ludwig Wittgenstein. Anscombe gave Feyerabend manuscripts of Wittgenstein's later work. These she discussed with Feyerabend intensively and, according to his own judgment, they had a lasting influence on him. After receiving his diploma in astronomy, he earned his Ph.D. in philosophy in 1951 with a dissertation entitled 'Zur Theorie der Basissätze', which consisted of an elaboration of the discussions of the Kraft-Kreis (this dissertation was never published—a summarized version can be found in the essay 'An Attempt at a Realistic Interpretation of Experience', *Proceedings of the Aristotelian Society* vol. 58, 1958, pp. 143–170). Between 1949 and 1952, Feyerabend traveled to Denmark, Sweden, and Norway where he attended various courses and summer schools. During one of these visits, he became acquainted with Niels Bohr.

In 1952 Feyerabend left Vienna in order to study with Popper in London. He received a scholarship for this from the British Council. Initially, he had intended to study under Wittgenstein in Cambridge, but Wittgenstein died in the meantime. In Popper's lectures and seminars, Feyerabend became familiar with 'falsificationism' and especially with Popper's arguments against the logical positivism of the Vienna Circle. The insight, stressed by Popper (and even earlier by Duhem), that general theories logically contradict the empirical laws approximately derived from them, provided him the following striking argument against the treacherous character of inductivism: how could a theory be inferred inductively from special empirical laws if the theory is in logical contradiction with these laws? Popper's falsificationism, which favored deductive testing, seemed to be the only available alternative to inductivism. Although Feyerabend endorsed Popper's work early on in his career, beginning in the late 1960s he rejected it with vehemence. But his own work concentrated mainly on two other topics, namely, quantum theory and Wittgenstein's philosophy.

In 1953 Feyerabend returned to Vienna after having declined an assistantship with Popper and worked on a set of different projects: he wrote a report (as yet unpublished in its initial form) on the situation of the humanities in Austria after the war, translated Popper's *The Open Society and its Enemies* into English, and wrote several encyclopedia articles. He became an assistant to Arthur Pap for a year. In 1955, Feyerabend was offered a job in Bristol, for which Popper and Erwin Schrödinger wrote him recommendations. Here he began his academic teaching with courses in philosophy of science and the philosophy of quantum mechanics.

In 1958 Feyerabend accepted an invitation to be a guest professor at the University of California in Berkeley. In 1959, he was offered a permanent position there. From Berkeley, which remained his home base until he retired, he had a large impact, especially in Anglo-Saxon countries. He was one of the regular guests of the Minnesota Center for the Philosophy of Science, whose director, Herbert

Feigl, was a friend of Feyerabend's. The center was probably the most important meeting place for philosophers of science at that time. Besides Feigl, Grover Maxwell and Paul Meehl were his most important discussion partners. In Berkeley at the end of the 1950s, he became acquainted with Thomas Kuhn who also had a position there and with whom he soon conversed intensively, and sometimes vehemently. Their main discussion topic was the draft of Kuhn's later famous *The Structure of Scientific Revolutions*, which Kuhn finished in the autumn of 1960. In the 1960s and 1970s, Feyerabend was very famous in the philosophical world. This is apparent from the large amount of (official and unofficial) offers for professorships that he received from Atlanta, Auckland, Berlin, Brighton, Freiburg, Hamburg, Kassel, London, Oxford, and Yale. Feyerabend accepted some of these offers. He taught one or two semesters each in Auckland, Hamburg, Kassel, Brighton, and Yale. For some time, he taught one semester in Berkeley and one in London alternatively, and additionally he commuted from London once a week by airplane to Berlin to teach. In London he became acquainted with Imre Lakatos, who became perhaps the best friend (academically and personally) of his life. (An Italian edition of their correspondence is already published.² The English edition is in preparation). Feyerabend turned away from Popper's 'critical rationalism' at the end of the 1960s. Popper became the primary target of biting, sarcastic, and somewhat degrading criticism for the rest of Feyerabend's life, whereas Lakatos tried to connect Kuhn's historical insights with critical rationalism in his methodology of scientific research programs.

Feyerabend experienced the brouhaha second half of the 1960s mostly in Berkeley and Berlin. His experiences in Berkeley were crucial for the development of his cultural relativism. As the result of educational politics, more and more members of minorities came to the university. Feyerabend saw the role attached to him as a university teacher as an intellectual imperialist: disregarding the students' backgrounds and providing theses that had no justified claim to generality. Moreover, in Feyerabend's view these theses concerned what a very specific culture, namely that of the white man, perceives as (scientific) rationality: methods that are especially characterized through their abstractness, exemplified through the use of abstract concepts (the critique of abstractness is also the core of *Against Method*, I will return to this later). Accordingly, Feyerabend saw the facilitation of university access for the members of minorities as an act that in no way provided equal opportunities. Moreover, this educational policy secured the predominance of a very specific culture, especially its scientific, technical, political, social, medical, and natural interpretations. A complete test of the presupposed superiority of this culture has never taken place. Feyerabend drew two consequences from this evaluation. On the one hand, he organized his lectures in such a way that the experiences of people from other cultures, and from subcultures of his own culture, could be discussed most authentically. On the other hand, he began to concern himself intensively with the 'rise of rationalism', as he called it, with the creation and dispersion of abstract methods and concepts that began in ancient Greece.

In 1975, the publication of Feyerabend's *Against Method* made him famous far beyond the borders of the philosophy of science. His slogan, 'Anything goes!',

became the brand name of his 'sketch of an anarchistic theory of knowledge': the shocking (as he had intended) subtitle of his book. The book was initially to be Feyerabend's part of a book written together with Lakatos, a plan that never came to fruition because of Lakatos's sudden death in 1974. Feyerabend, in his autobiography, called *Against Method* a 'collage' because many different previously written texts, ideas, and arguments were used in it. The main idea of the book was also initiated through a discussion with Carl Friedrich von Weizsäcker in 1965 in Hamburg about the foundations of quantum theory, at which time Feyerabend realized, more than ever, how large was the discrepancy between abstract normative thinking about science (including his own up until then) and the actual, complex, and context-dependent practice of science. This idea remained a central, if not the central, point of his thinking throughout his later life.

From 1980 to 1990 Feyerabend taught the fall term in Berkeley and the summer term at the Eidgenössische Technische Hochschule (ETH) in Zurich. His seminars in Zurich, during which many different topics were quite controversially discussed with guest speakers, drew a large number of participants. After his retirement from both universities, he led a quite withdrawn life. He worked, on the one hand, on a book entitled *The Conquest of Abundance*, which is concerned with reality and objectivity, but he did not get further than the first few chapters, of which different, often reworked versions have been found. On the other hand, he wrote an autobiography with the title *Killing Time*, which he was able to finish in the hospital while already paralyzed on one whole side of his body, and with death staring him in the face. It was published in 1994 in an Italian translation, and in 1995 in the English original.

If one looks at the course of Feyerabend's life, one is struck by the fact that he was often in places where especially intensive discussions in the philosophy of science occurred at that time. Furthermore, as one of the 'big four' in the philosophy of science in the second half of the twentieth century, he had close relationships with the other three: to Popper in the 1950s, to Kuhn in the early 1960s, and to Lakatos in the 1960s and 1970s. So Feyerabend was informed about the actual developments in the philosophy of science not only on the basis of his readings, but also on the basis of his extraordinarily many personal contacts. Accordingly, many of his works must be understood as reactions to the actual situation in the philosophy of science. Before I turn to acknowledge his work, I would like to comment on Feyerabend's personality. This only concerns a few impressions that are restricted primarily to the years after 1980.

In many ways, Feyerabend was quite unconventional, especially because he did not conform to the established academic customs, sometimes as a conscious provocation. This was because his personal value hierarchy was different in some aspects from the typical or 'average' value hierarchy of academia. In fact, he was always ready to subordinate typical academic values to his own preferences. For example, he revoked his acceptance of a position at the Minnesota Center for the Philosophy of Science, an institution he greatly admired, saying that he could not endure without his singing teacher in San Francisco. He could reject potentially interesting and exciting discussions if a detective mystery that he wanted to see

was on television. He refused a meeting with Heidegger that a common acquaintance wanted to arrange just like that. He finished a lecture at the ETH Zurich, where he was presenting himself for the first time, by whirling his scarf like a lasso over his head, then announcing that he had become tired and hungry and so he would go home. At invitations to lectures that he had accepted, the organizers had to be prepared for a cancellation at the last minute (the cancellation might not be because he was not in the mood, but because he was in great pain).

One might think that, as he was moody, undependable, and irresponsible, he was personally an anarchist (as some colleagues put it). Once, Feyerabend justified his last-minute lecture cancellation with the remark that a female critical rationalist argued him into bed—he could not possibly come. His written work was also, with regard to the form of presentation, full of elements that one usually does not find in academic treatises and with which the author signaled that he was a certain distance from the tradition within which he was working. According to one's own viewpoint, those deviations are either amusing or out of place.

Because of his eccentricity, many legends grew up around him. For example, two serious biographical collections claim that Feyerabend had had eleven children³—even though he did not have any, and he could not have had any. I do not know the source of this misinformation, but it is conceivable that it was Feyerabend himself, perhaps to show that such things are not especially informative, not to mention relevant. The book *Bluff Your Way in Philosophy* by Jim Hankinson claims that Feyerabend ended his lectures at the London School of Economics by jumping out the window (from the ground floor, luckily), hopping onto a big motorcycle, and taking off with a roar.⁴ Not bad for someone whose legs were paralyzed!

From his writing, one can easily get the impression that Feyerabend was arrogant, sometimes even aggressive beyond good taste (the allures of a prima donna). But this impression does not at all match that which one got from meeting him personally. As Feyerabend reports in his autobiography, Carnap also had a bad impression of him from his writing, which then disappeared the first time they met. For many, Feyerabend was an extraordinarily fascinating personality. He could adapt himself excellently to those with whom he conversed, especially when they were his friends. He accomplished this to such a point that from his correspondence one almost gets the impression that there were different people who shared the name 'Feyerabend'. Lakatos is said to have commented on this feature of his friend, "Paul everybody loves you, you have no character". Feyerabend was ironic, full of humor, and always ready to be amiably provocative. Often, he was more interested in the personal circumstances of those he conversed with than in their intellectual achievements. He could be extremely helpful to others, both in institutional and in personal respects, and this was part of the warmth he radiated through his personal magnetism. He tried to be helpful to young people, as well as outsiders, whenever he was asked. His personal independence meant a lot to him. It was one of the roots of his unconventionality. Feyerabend was unreachable by phone because normally he did not answer: only his closest friends knew the ringing code to which he responded. On the other hand, he had a large correspondence; he answered practically every letter, often on handwritten postcards. Letters

which he read and answered, he normally threw away, regardless of who had sent them, even if it was a Nobel Prize laureate.

Two things always impressed me a lot about Feyerabend. First of all, he was never conceited. Although he loved both the theater and opera (and as a matter of fact was an actor of sorts himself), he never showed off his enormous reading capacity, his knowledge, his international success, or his intelligence. He seemed to be incorruptible by these things. (Feyerabend often criticized Popper for changing because of his success). For Feyerabend, academic pretensions were loathsome. He dismissed, even rejected, praise of his originality without coquetry. Second, he bore the fate of a wounded war veteran with astonishing calmness, given his paralyzed legs and the terrible pains he endured since the age of twenty-one.

Feyerabend was, and is, one of the most controversial personalities in contemporary philosophy. This is not primarily because of his unconventional personal customs (there are other highly eccentric personalities in contemporary philosophy who are judged a lot less controversial philosophically). Rather, since the mid- or late-1960s, Feyerabend's writings triggered extremely diverse judgments. The reason for this is primarily that they are often highly original, contain sharp arguments, provocative theses, and deep critiques. Moreover, he did this while introducing texts from outside the field, literature that had previously played no role, but which through Feyerabend became fruitful within the philosophy of science. In addition, Feyerabend is, and was, one of the very few philosophers of science who did not bring an unquestioned affirmative relationship to the cognitive achievements of modern science to his work, while at the same time knowing a lot about it. This distance allowed him to see the sciences from different perspectives than the usual ones, and allowed him to say provocative things about them that were not easily swept aside from the start. It seems to me that Feyerabend's strong desire for personal and mental independence, especially from the authority of modern science, is an important key to the crucial aspects of his personality and his work. Even today, his work maintains its potential to excite in several areas of the philosophy of science. On the other hand, in his publications since the mid-1960s, Feyerabend increasingly deviated from the usual (and generally thought of as sensible) academic customs to the extent that his academic reputation suffered. Feyerabend was, of course, completely aware of this: "A recommendation from me could be the kiss of death". This loss of reputation occurred mainly, but not exclusively, with those who did not know him personally: his friends, and those who knew him personally, were prepared to overlook these things as the weaknesses of an extraordinary individual. He was criticized especially for his reaction to the intense critical discussion of his work in the literature, which he perceived as totally inadequate. The general view was that instead of seriously responding to critiques, Feyerabend developed more and more extreme and absurd versions of his views. He exhibited extremely annoyed and sarcastic reactions to criticisms in which, as he believed, he was misunderstood. He sometimes bitched about the authors degradingly and rudely, for example by claiming they were illiterate, or by calling them rodents, or the like.

Feyerabend's reception outside the philosophy of science, which began after the publication of *Against Method* (1975), was also very controversial. There, he established the reputation of 'enfant terrible of the philosophy of science.' In one of the most highly respected scientific journals, *Nature*, Feyerabend was called "the worst enemy of science" (although he was in the company of other alleged science enemies, such as Popper, Lakatos, and Kuhn).⁵

From the very beginning, the great attention that Feyerabend's work received in the philosophy of science was the result of the fact that it contained material that was extraordinarily provocative, independently of his rhetoric. Many of his works attacked presuppositions of the established philosophical tradition that had been more or less taken for granted, and many argued using material from the history of science, or from contemporary science. In any case, one could not sweep aside his works. It was often quite difficult to show that his arguments were wrong, especially at the first attempt, partly because Feyerabend often worked with less well-known material from the history of science or from contemporary science. Feyerabend, in many cases, argued by means of immanent criticism. This means that he took the positions of a certain conversational partner into account, momentarily accepting the presuppositions of that position in order to begin his criticism, without thereby necessarily adopting those presuppositions as his own (although this structure is not always visible, especially in his later works). Feyerabend's affinity for rhetoric, jokes, ironical remarks, insults, and other provocative elements often made the structure of his arguments unclear, sometimes even disguising their substance.

I would like to illustrate the provocative content of Feyerabend's work with one of his most famous essays 'Explanation, Reduction, and Empiricism' from 1962 (many of the same topics were discussed in several other of his essays from the same period). This work became so well-known because Feyerabend there introduced the concept of incommensurability. Incommensurability, in both Kuhn and Feyerabend's versions, continues to play an important role in discussions in the philosophy of science and seemed intimately to have bound together Kuhn and Feyerabend's positions. In this work, Feyerabend attacks both the crucial presuppositions and results that were taken as successes of the accepted tradition in the philosophy of science. His main critical thesis is that Nagel's model of reduction and the Hempel-Oppenheim theory of scientific explanation, which were perceived as shining examples of the fruitfulness of logical analysis in the philosophy of science, fail when applied to "universal theories", by which he meant theories like Aristotelian dynamics, Newtonian mechanics, or quantum mechanics. Feyerabend did not deny that the reduction model and the explanation theory are applicable to empirical generalizations of limited scope, but those, of course, are much less interesting cases. He claimed that the two attempts fail for two reasons. On the one hand, when applied to universal theories, the two models contradict scientific practice. On the other hand, they do not accord with a reasonable empiricism. Thus Feyerabend distinguished between a descriptive and a normative aspect of philosophy of science. Taking these two aspects together shows the sharpness of the critique of the established tradition in the philosophy of sci-

ence. If claims in the philosophy of science do not match actual scientific practice, this could, in principle, be because of insufficiencies in the practice. However, if the same claims made in the philosophy of science can also be criticized from the perspective of a "reasonable empiricism", that is, judged through a justified normative view, then the critique is devastating.

In the process of criticizing Nagel's model of reduction and the Hempel-Oppenheim scheme of explanation, Feyerabend also attacks other pillars of the established position. Among them is the so-called 'two-language model'. This model assumes that there is a distinction between observation terms and theoretical terms. Accordingly, observation terms acquire meaning independently of theoretical terms. Theoretical terms acquire meaning through observation terms to which they are connected by so-called 'bridge principles'. In the two-language model, meaning flows from observation terms to theoretical terms. Feyerabend attacks this view by claiming that universal theories generate the flow of meaning in the opposite direction. Theories are universal, or all-encompassing conceptualizations of the world that influence the vocabulary that is used in the descriptions of observations, (i.e., observation terms). According to Feyerabend, this aspect of such theories is greatly underestimated in the established positivistic tradition, within which theories are essentially treated as empirical generalizations ("All ravens are black"), that is, just as especially economical summaries of theory-independent facts.

But if one accepts the pervasive character of universal theories, then one must ask oneself how this kind of theory could be empirically tested at all. This gives rise to the suspicion that these theories, by influencing the observation language, exclude the possibility of articulating falsifying observational sentences. There are two usual reactions to this situation: either one denies the empirical character of universal theories, viewing them as valid *a priori*, or one views them instrumentally, as an aid to the prediction of phenomena, and thus as free from descriptive content. These two reactions are not acceptable to Feyerabend, because they do not fit with his empiricist persuasion according to which theories ought to have empirical content and thus should be empirically testable, and indeed should be subjected to test and abandoned if necessary. Instead of the conventionalist and instrumentalist reactions, Feyerabend suggests that a theory is not, as previously believed, tested by confronting it with empirical data, but that much more serious tests require confronting at least two theories that are incompatible with each other. The weaknesses of a theory often do not appear if the theory is confronted with the facts as seen from its own perspective, but may only appear if facts as seen from the perspective of an alternative theory are allowed. This idea is the core of Feyerabend's view of the necessity of theory proliferation. If it is the case that theories are mainly testable through reciprocal confrontation, then his empiricist persuasion demands that alternative theories should be at one's disposal, thus, his imperative for theory proliferation. Otherwise, there is the threat of dogmatic stagnation. Here, it is of overwhelming importance that the concepts of the competing theories can be mutually exclusive. This exclusion relationship comes about because the application of the concepts of one theory relies on principles that, as seen from the perspective of the other theory, are invalid. This exclusion

relationship is called 'incommensurability'. Incommensurability and the demand for theory proliferation were the topics with which Feyerabend had the largest influence in philosophy of science in the 1960s and early 1970s.

Feyerabend connects the special meaning differences that are responsible for the incommensurability of theories with an additional, especially provocative attack on the reigning empiricist tradition. This empiricism demands that the successes of a theory that is succeeded by a theory with a broader scope must be explainable by the competing theory, and that this explanation must fit the Hempel-Oppenheim model. This demand implicitly requires that the concepts of the old theory, as long as they are taken over by the new theory, are taken over unchanged. Thus, the older theory limits the scope of theoretical innovation with respect to which concepts are allowed in the new theory. But according to Feyerabend, the modern empiricist tradition shares exactly this property with "school philosophies" such as Platonism or Cartesianism, and given this similarity, the differences between the school philosophies and the modern empiricist tradition are of subordinate importance. To claim that there is such a similarity is one of the greatest provocations for the later tradition, which began with the pathos of a radical new beginning and a total break with even the remotest rationalistic philosophical position.

The book that made Feyerabend famous far outside the borders of the philosophy of science is *Against Method: Outline of an Anarchistic Theory of Knowledge*, published in 1975. The first English edition was dedicated to Imre Lakatos who was ironically there called a "friend and fellow anarchist". Further reworked editions followed: a revised edition in 1988, and a third edition in 1993. The book was translated into more than a dozen other languages, including several times into Chinese. "Anything Goes" became Feyerabend's trademark, although not at all in the sense that he had intended. *Against Method* seemed to stand for total rulelessness and absolute arbitrariness in science, and thus to exemplify the diversity and equivocation commonly associated with postmodernism. However, this was not at all the idea that the book tried to justify. The target of Feyerabend's attack in *Against Method* was a specific epistemological (self-)understanding of the sciences; one that reduces the special quality of scientific knowledge to the strict application of rules for practicing science. This understanding of science had accompanied modern natural science from the very beginning and, in its essentials, can be traced back to the Greeks of antiquity. Strict rules to achieve a certain target are called "methods". The rules of practicing science are respectively called 'scientific methods', or summarily 'The Scientific Method'. In his book, Feyerabend questioned the existence of such strictly binding scientific methods. Thus the title *Against Method* and its subtitle that contains the concept of anarchism: anarchism as antithesis to the unconditional reign of one or more methods.

The book actually has two parts: a longer theoretical and historical section about the sciences in which the main thesis of the book is justified, and a much shorter section in which the political consequences of the main thesis are drawn. In later books, Feyerabend dedicates himself to the further development of these consequences. The main thesis of *Against Method* claims that science is not an

endeavor that is special because of strictly binding methodological instruction, and that it *could not be*, and consequently, *should not be* such an endeavor. This thesis in no way claimed that science is an endeavor in which one can do whatever one pleases, in any way one might happen to feel. Rather, it only claims that it cannot be characterized by absolutely binding rules, like those Descartes specifies in his *Discours de la Méthode*. The existence of methodological instructions in science and also its (limited) success is not denied in any sense. Feyerabend only claimed that such rules in science are not de facto slavishly followed all the time, and that they should not be so followed. There are always situations in which a rule that until now has been fruitful must be broken, if one wants to avoid hindering the progress of science. Soberly formulated, Feyerabend just claims "the limited validity of methodological rules" (the title of an essay that appeared in German in 1972). But how is this relatively moderate view compatible with 'Anything goes'? First of all, one must consider the rhetorical, or more precisely, ironic component of the slogan. 'Anything goes' is an ironic answer to those who insist that there must be absolutely binding rules in the practice of science. Yes, if you insist, says Feyerabend, then I'll give you such a rule, namely, 'Anything goes'! With this, Feyerabend in no way provides incorrect information: indeed, one can discern this as an absolute rule in the practice of science, or in any other practice for that matter, since, being empty, it cannot be broken. The strict validity, independent of the concrete circumstances to which it can be applied, is thus bought at the price of absolute emptiness. Furthermore, when Feyerabend first published the statement 'Anything goes', it came with an ironic footnote about his surprise that people had not noticed that he was joking.⁶

How does Feyerabend justify the limited validity of all methodological prescriptions in the sciences? Rather casually, one finds an abstract justification. The justification is that each methodological rule for increasing knowledge (or for testing or confirming knowledge) is only reasonable relative to certain substantive assumptions about reality and its interaction with the understanding subject. These assumptions are by no means indisputable, but they can change during research, and in fact have changed often enough. Strict adherence to methodological rules thus implies a dogmatization of their underlying substantive assumptions, which of course hinders research and could even, in an extreme case, bring it to stagnation.

Feyerabend puts more weight on the historical justification of his main thesis, especially in the many chapters about Galileo. The idea of the argument is to find, for any suggested methodological rule, an episode in the history of science containing what is generally accepted as an incidence of crucial scientific progress that was only possible by breaking the rule in question. Feyerabend worked through several candidates which seem, *prima facie*, plausible. To give some examples: that one should not introduce ad hoc hypothesis, that new hypotheses should not be in contradiction with established data or other established theories, that new hypotheses should not have less content than those they replace. He always presents historical examples in which breaking the particular methodological rule in question was essential to the progress of knowledge. From this it follows, as Feyerabend states, following Einstein, that from the perspective of a

philosopher of science interested in strict rules, scientists must seem like “unscrupulous opportunists” who, depending on the circumstances, follow or break methodological rules as they please.

How, for Feyerabend, does the main thesis about methodology result in political consequences? Feyerabend thinks that the main cause of the distinguished position of the sciences in an industrial society is the belief in their cognitive superiority in comparison to other forms of knowledge. This belief is based on the idea that science is superior because of its methods, when in fact there are no such methods in the sense of strictly binding rules. Furthermore, the alleged superiority of scientific knowledge over other forms of knowledge has not been thoroughly examined without prejudice in any field. Instead, other forms of knowledge have often been simply swept aside by science. Because of these facts, scientific knowledge has its special social status without justification. It is one form of knowledge among others, which has advantages and disadvantages just like others. Furthermore, it is a lot closer to myth than is commonly assumed. If this is the case, then for a democratic state, the warrant for maintaining a special relationship to science disappears, according to Feyerabend. Just as all religious traditions in a democratic state should have the same rights, all cognitive traditions should receive the same conditions for survival. None of them should be favored over the others by the state. In fact, the special tradition of Western sciences suppresses, without legitimation, alternative traditions. The separation of church and state should be followed by the separation of science and state.

The core of Feyerabend's *Against Method* is a plea against the abstract, especially in the philosophy of science. In Feyerabend's opinion, the abstractions he has in mind do not really lead to universals under which the concrete cases can in fact be subsumed, in a way informative for those cases. Instead, they lead to a misleading watering down and mutilation of the abundance of the concrete. It follows from that that neither normative nor descriptive philosophy of science is possible because they both aim at general norms or descriptions, respectively, of the sciences. In a typically Feyerabendian provocative manner, Feyerabend titled an essay at the Tenth German Congress for Philosophy (1972) 'Philosophy of Science, a Hitherto Unexamined Form of Insanity' because philosophy of science distanced itself from the reality of the sciences, in a cognitively unhealthy way analogous to the loss of reality in some insanities. The program for the political consequences then becomes: “Citizen's initiatives instead of epistemology!” because only a grass roots political process can break the political hegemony of the sciences over other forms of knowledge.

Many of Feyerabend's works after *Against Method* address and develop its main topics. In *Science in a Free Society* (1978), in addition to provocative replies to some critiques, he discusses the political consequences of his anarchistic theory of knowledge. In *Science as Art* (1984), he developed the parallels between the sciences and the arts that are only apparent if one does not conceive of the sciences as methodologically strictly regulated enterprises. In *Farewell to Reason* (1987), Feyerabend continues the development of these main topics. This book's title seemed to confirm the way in which Feyerabend was broadly conceived, that

is, as an irrationalist. But the title is mainly a provocation, as Feyerabend in no way intends to wipe out the difference between rationality and irrationality. This can be made visible through the fact that Feyerabend formulates, criticizes, and demands arguments himself, and not only insults, associates, and tells fairytales etc. Furthermore, in certain places Feyerabend explicitly lays claim to reason for himself (and others as well). His point, rather, is to criticize certain theories (namely those portending universality) of reason (and also of morals) and to abandon them. Such portentions, in Feyerabend's views, are tyrannical because they tend to restrict cultural diversity.

In the last years of his life, Feyerabend changed his views about the relativism of cultures, including scientific cultures, and also about incommensurability. The relativism of cultures presupposes that cultures are relatively closed units that have specific procedures and values, and in which another culture should not intervene: every culture has the same worth and has to be respected by other cultures. Incommensurability presupposes or suggests, at least in the eyes of some of its proponents, that the barriers between the different cultures are so great that they are almost totally closed-off from one another. In fact, one sees that cultures often have and have had a vivid exchange in which the most diverse elements of one culture are taken over, more or less unchanged or transformed, from another: there are no insurmountable gaps between cultures in this respect. This suggests the idea that cultures are fundamentally more pliable than is presupposed by both relativism and objectivism (which presupposes the existence of a *single* objective reality): both boil down to cultural essentialism. Directly put, as Feyerabend entitled an essay in 1993, potentially every culture is all cultures. Politically, this has the consequence (among others) that cultures no longer appear as sacrosanct and cannot exclusively be judged from within their own established norms. Rather, their practices can legitimately be evaluated from outside, from a humanitarian perspective.

To conclude, I will mention a further argument that Feyerabend gave for his abandonment of relativism: "If on almost every university toilet door there are relativistic theses, then it's time to distance oneself from relativism".

Paul Feyerabend would probably reprimand me for this obituary because in it, he stands (naturally) at the center of attention in a way which he disliked. Perhaps I would answer that even after Feyerabend's death, I am not ready to follow strictly binding rules about how he should be treated. To this, Feyerabend would probably say, "Yeah, but . . .," and already we would be into a very stimulating discussion.

Notes

1. I am drawing much of the following biographical information from Feyerabend's autobiography *Killing Time* (Chicago: University of Chicago Press, 1995), and also from *Science in a Free Society* (London: New Left Books, 1978), pp. 107–122. See also John Preston, *Feyerabend: Philosophy, Science and Society* (Cambridge: Polity Press, 1997).

2. M. Motterlini (ed.), I. Lakatos, P.K. Feyerabend, *Sull'Orlo della Scienza: Pro e Contro il Metodo* (Milan: Raffaello Cortina, 1995).

3. *Directory of American Scholars*, 8th ed., *Philosophy, Religion and Law*, Vol. 4, ed. Jacques Cattell Press (New York: Bowker 1982), p. 156; *Thinkers of the Twentieth Century*, 2nd ed., ed. Roland Turner (Chicago: St. James Press), p. 227. I would like to thank Brigitte Uhlemann (University of Konstanz) for her directions to both of these publications.

4. Published by Ravette Books (1985) and further editions, p. 41.

5. T. Theocharis and M. Psimopoulos, 'Where Science has Gone Wrong', *Nature*, vol. 329, 1987, pp. 595–598.

6. 'Against Method: Outline of an Anarchistic Theory of Knowledge', in M. Radner and S. Winokur (eds.), *Analyses of Theories and Methods of Physics and Psychology. Minnesota Studies in the Philosophy of Science*, Vol. 4 (Minneapolis: University of Minnesota Press, 1970), p. 105. I wish to thank Eric Oberheim (University of Hanover) for bringing this footnote to my attention.

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of Paul Feyerabend*. New
York: Oxford University Press.