

Feyerabend's humanitarian pluralism and its relevance for science-based policy

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Abstract: A strong commitment to pluralism on multiple levels (methodological, theoretical, ontological as well as political) is a defining feature of Paul Feyerabend's philosophical corpus. However, for Feyerabend, pluralism is not just an epistemologically preferable account within the philosophy of science. He also believes that pluralism is the only account of science that is compatible with a humanitarian outlook.

In the first part of this paper, I will reconstruct Feyerabend's theoretical pluralism in the context of his criticism of Thomas Kuhn's account. I will show that Feyerabend's critical engagement with Kuhn's model of scientific revolutions in the early 1960s was crucially important for the development of his own pluralistic account of science. In the second part, I will discuss and critically analyse the ethical-political stance that underlies Feyerabend's pluralism. In the final part, I briefly summarize a series of papers that I have published together with Simon Lohse, in which we apply Feyerabend's pluralism to current discussions about the role of evidence-based policy advice during the COVID-19 pandemic.

Keywords: Feyerabend, Criticism of monism, Theoretical and methodological pluralism, Humanitarianism, Science-based policy.

1. *Introduction*

It is impossible to pin down Paul Feyerabend's thinking to one central claim, position, or any sort of philosophical "ism". There are, however, certain recurring topics and motifs which play important roles throughout Feyerabend's intellectual trajectory.

One of these central topics is the idea of pluralism and its relevance for scientific knowledge production, which appears very early in Feyerabend's writings. His interest in philosophical debates on quantum mechanics in the 1950s, particularly his engagement with the positions of David Bohm and Niels Bohr, was highly influential for the arguments for pluralism that he would extend and further develop over the next decades.¹ Another important influence on

¹ For the influence of Bohm and Bohr on Feyerabend's early theoretical pluralism see van Strien (2020). See also Kuby (2021).

Feyerabend's early pluralism was Karl Popper, whom he first met in 1948 and whose lectures on critical rationalism he attended in the early 1950s at the London School of Economics. Popper's critical methodology as well as his emphasis on the function of theoretical alternatives in theory testing would become a key element of Feyerabend's own epistemic pluralism. Feyerabend typically framed his pluralist arguments in the context of criticisms of contemporary positions in the philosophy of science of his time. In this regard, his criticism of Thomas Kuhn's notion of normal science, as laid out in *The Structure of Scientific Revolutions* (1962), constituted a crucial step towards the development of his pluralism.

Another important recurring element in Feyerabend's philosophy is his merging of epistemological arguments with ethical-normative considerations. From a very early point in his career, Feyerabend combined philosophical criticisms, for example of logical empiricism or of Kuhn, with allegations of dogmatism, authoritarianism, and even tyranny. Especially in his later writings, and particularly in his 1978 book *Science in a Free Society* (which resembles the more famous book *Against Method* in that it is a collage of ideas and elements of texts that had been used in earlier publications), the ethical stance underpinning many of his epistemological arguments becomes more accentuated. For Feyerabend, pluralism is not just a position that is favorable compared to other accounts in the philosophy of science; he considers it to be the only account of science that is compatible with a humanitarian outlook and a free and democratic society in which all traditions and individuals can develop freely. Feyerabend's systematic arguments for pluralism as a preferable position within the philosophy of science simply cannot be separated from his moral and political defenses of pluralism as a basis for a free and open society.

However, the relationship between Feyerabend's pluralism and his humanitarianism (or his allegations of anti-humanitarianism towards the positions that he criticizes) is an underexplored aspect of Feyerabend scholarship. This paper aims to provide a first step towards closing this gap in the secondary literature.

I will begin, in Section 2, by describing the development of Feyerabend's early theoretical pluralism against the background of his criticism of Kuhn. The picture that will emerge from this will be incomplete. There are many more influences one would have to consider in a full historical reconstruction of the development of Feyerabend's pluralistic account. However, the specific points Feyerabend raises in his critical engagement with Kuhn's model nicely highlight those aspects in the general philosophical accounts of his time that he took issue with. His attacks on Kuhn's position also illustrate how he was eager to underline the function of criticism in science and the importance of fallibilism as an essential epistemological attitude, which he had encountered and ap-

preciated in Popper's philosophy and, later, in John Stuart Mill's *On Liberty*.²

In Section 3, I will turn to Feyerabend's humanistic defense of pluralism. As it turns out, Feyerabend never explicitly explains what he means by "humanitarianism" and why he thinks that accounts that allow for mild forms of dogmatism in scientific knowledge production (such as Kuhn's or others) are supposedly anti-humanitarian. I will suggest that Feyerabend's invocations of humanitarianism should be interpreted in the context of a more general critique of scientific modernity.

In Section 4, I will address whether Feyerabend's frequent invocations of humanitarianism can be understood as the expression of a genuine ethical stance. I will show that, if anything, Feyerabend implicitly proposes a particularist ethics in combination with a voluntarist approach to epistemology. Ultimately, it remains a matter of interpretation what Feyerabend's ethical stance exactly consists of, but it is possible to extract elements of such a stance from his writings.

The fact that Feyerabend does not articulate a systematically sound normative foundation for his pluralism does not mean that his pluralistic account of science is without merit. Quite on the contrary, the latter may be seen as relevant for current discussions about science and about the ways in which scientific knowledge can and should be implemented in society. To illustrate this, I will summarize, in Section 5, the main insights of previous collaborative work with Simon Lohse, in which we use a charitable reconstruction of Feyerabend's pluralism to deepen our understanding of specific shortcomings in the scientific policy advice during the COVID-19 pandemic.

2. *Feyerabend's early epistemic pluralism*

Feyerabend's early epistemic pluralism is best interpreted in a negative way: as a rejection of theoretical monism understood as the shared commitment of a scientific community to a single theoretical paradigm. Such a notion of monism plays a prominent role not only in the logical empiricist tradition of the early 20th century but also in Thomas Kuhn's theory of scientific revolutions and his concept of normal science.

Feyerabend's critical engagement with empiricism and Kuhn's theory in the early 1960s played a crucial role in the development of his pluralistic position. In 1961, Feyerabend received a copy of the manuscript of Kuhn's *The Structure of Scientific Revolutions*. Feyerabend wrote four extensive letters to Kuhn with detailed comments on the manuscript. The letters contain a multifaceted

² See Lloyd (1997) for the similarities in Feyerabend and Mill.

critique of Kuhn's account in *Structure*.³ From 1961 onwards, the arguments used in his critique of Kuhn appear frequently in Feyerabend's writings including his contribution to the 1970 Lakatos/Musgrave volume (Feyerabend 1970), and in his magnum opus *Against Method* (1975b).

According to Kuhn's model of scientific change, phases of normal science are punctuated with scientific revolutions that lead to radical changes in the dominating paradigm of a discipline. During a normal scientific phase, the discipline is dominated by a single paradigm whose underlying theoretical assumptions are not questioned. Furthermore, normal science is characterized by a consensus about what counts as relevant and solvable problems within a discipline. Normal science thus has an important function in the development of science because adherence to a single paradigm enables scientists to select and focus on relevant problems, allowing for cumulative progress. A normal scientific phase ends when only those problems remain that cannot be solved by the problem-solving strategies of the dominating paradigm. Kuhn calls these problems anomalies. In Kuhn's view, the emergence of anomalies is the natural result of normal scientific activity.

It is at this point that Feyerabend's criticism of Kuhn sets in. Feyerabend believes that scientists should not just adhere to the prevailing paradigm, but actively seek to develop and entertain incompatible alternatives. According to Feyerabend, the availability of such alternatives can enhance the visibility of anomalies that would otherwise remain hidden.⁴

Feyerabend thus contrasts the monism that is characteristic of Kuhn's normal science with a notion of epistemic pluralism containing two main features. The first is the idea of the proliferation of theoretical alternatives. The second is the idea that descriptions of empirical facts, which potentially constitute anomalies, are dependent on the theoretical framework in which they are described and that the number of potential anomalies increases if multiple theoretical frameworks are used to describe empirical reality:

[A]lternatives are both used and needed; and they are needed as it is only with their help that it is possible to find anomalies in whatever theory is being held at a special moment (Feyerabend to Kuhn in Hoyningen-Huene 1995: 366).

In a nutshell, Feyerabend's early epistemic pluralism consists in the methodological prescription to increase the likelihood of detecting anomalies in established theories. Alternatives are often necessary, according to Feyerabend,

³ The letters are reproduced in Hoyningen-Huene (1995; 2006).

⁴ For details on Feyerabend's criticism of Kuhn see Hoyningen-Huene (1995; 2000; 2006), Sirtes *et al.* (2006), Bschir (2015), Gillies (2024).

to detect and highlight the limitations and errors of a given theory or approach. The idea that alternatives increase the empirical content of established theories, thus enhancing their testability, also plays a central role in *Against Method*:

Not only is the description of every single fact dependent on *some* theory [...], but there also exist facts which cannot be unearthed except with the help of alternatives to the theory to be tested, and which become unavailable as soon as such alternatives are excluded. This suggests that the methodological unit to which we must refer when discussing questions of test and empirical content is constituted by a *whole set of partly overlapping, factually adequate, but mutually inconsistent theories* (Feyerabend 1975b: 39).

If progress through paradigm change is the aim of science, then the proliferation of theories becomes a methodological imperative for science.

Hence, if change of paradigms is our aim then we must be prepared to introduce and articulate alternatives [...], we must be prepared to accept a *principle of proliferation*. Proceeding in accordance with such a principle is one method of precipitating revolutions (Feyerabend 1970: 205).

In its early phase, Feyerabend's pluralism can be characterized as a systematically argued position that grew out of a critical engagement with the main accounts in the philosophy of science of the time. As such, Feyerabend introduced pluralism mainly for the sake of its epistemological benefits and defended it based on epistemological arguments. These arguments build on the theory-ladenness of experience and empirical descriptions, the importance of alternatives in theory testing, the importance of criticism in science, and a fallibilist stance according to which even the best scientific theories are likely to fail in solving certain empirical problems.⁵

It is important to note, however, that already from very early on, Feyerabend supported his pluralistic position not only with systematic epistemological arguments but also with ethical-normative reasons. These normative defenses of pluralism were intricately connected with the notion that pluralism is also a desirable political and social goal in a free society.

3. *Feyerabend's ethical-normative defense of pluralism*

As early as 1961, Feyerabend clearly expressed concerns about monism from both an epistemological and a moral perspective. In a quite obscure and

⁵ For details on Feyerabend's theoretical pluralism see Martin (1972), Preston (1997), Lloyd (1997), Farrell (2003), Oberheim (2006), Sirtes *et al.* (2006), Bschr (2015), Tambolo (2015), Collodel (2016).

rather provocative passage, he associates Kuhn's historical analysis with an ideology that he clearly rejects. He compares Kuhn to those who point to history to justify their crimes. And he accuses Kuhn of being irrational:

Your hidden predilection for monism (for one paradigm) leads you to a false report of historical events. You regard as one paradigm (classical physics, for example) which is in fact a bundle of alternatives [...]. Which only confirms what I have said on the first page, viz. that you do not write history plain and simple, but that you present an ideology, and a very questionable monolithic ideology at that in the covers of history. In this respect you are really very similar to those who point to history in order to justify their crimes. You are a mystic, an irrationalist (Feyerabend to Kuhn in Hoyningen-Huene 1995: 367).

In his 1963 paper "How to be a Good Empiricist: A Plea for Tolerance in Matters Epistemological", we find one of the first associations of pluralism with what Feyerabend calls a "humanitarian outlook":

Unanimity of opinion may be fitting for a church, for the frightened victims of some (ancient, or modern) myth, or for the weak and willing followers of some tyrant; variety of opinion is a feature necessary for objective knowledge; and a method that encourages variety is also the only method that is compatible with a humanitarian outlook (1963/1999: 97).

Feyerabend repeats this line of argument in the 1970 volume edited by Imre Lakatos and Alan Musgrave, which unites discussions of Kuhn's *Structure of Scientific Revolutions*:

This ideology [which forms the background of Kuhn's thinking], so it seemed to me, could only give comfort to the most narrowminded and the most conceited kind of specialism. It would tend to inhibit the advancement of knowledge. And it is bound to increase the anti-humanitarian tendencies which are such a disquieting feature of much of post-Newtonian science (1970: 197-198).

And he reiterates the incompatibility of normal science with humanitarianism:

This, I regard as the final and the most important argument against a "mature" science as described by Kuhn. Such an enterprise is not only ill-conceived and non-existent; its defence is also incompatible with a humanitarian outlook (1970: 210).

That Feyerabend's epistemological arguments for pluralism also have implications beyond the philosophy of science and that a defense of pluralism for Feyerabend also has political ramifications, becomes clear in the 1965 essay "Problems of Empiricism", in which he associates "the idea of absolute knowledge" (which allegedly lies behind the monisms of Kuhn and the empiricist tradition) with tyranny and the "multiplicity of ideas" with democracy:

Is not a tyranny the natural correlate of the idea of absolute knowledge, and is not indoctrination the method of teaching most appropriate to it? Conversely, is not the idea of fallibility and the correlated demand for a multiplicity of ideas, and the hope that truth will arise from the civilized clash of such ideas the essence of all democracy? (1965: 217).

Feyerabend emphasizes the association of pluralism with a “humanistic system of belief” in another passage of the same essay:

All this shows that theoretical monism is the reflection, within the domain of theoretical knowledge, of a *much more general point of view*, which [...] left its traces in almost all human activities. Conversely, we may guess that the theoretical pluralism that we propagate in epistemology may lend itself to generalization and may then lead to an outlook in the arts and in religion, as well as to a new, comprehensive ideology that assembles the scattered remains of a long-forgotten tribal ideology and unites them in a truly humanistic system of belief (1965: 218).

Feyerabend seems convinced that monism is not just an epistemologically deficient position within the theory of science but that it reflects a general viewpoint that permeates all aspects of society. He associates this viewpoint with dogmatism, indoctrination, tyranny, authoritarianism, hegemony, and narrow-mindedness; and he sees it as detrimental to the free development of individuals. While he clearly asserts that monistic philosophical accounts are incompatible with humanitarianism, he does not provide a systematic argument for this claim. But he makes it unmistakably clear that opposing views to pluralism are morally reprehensible and must be rejected on normative grounds.

Simultaneously, Feyerabend presents his own pluralism as morally virtuous. In the Introduction to the Chinese Edition of *Against Method*, he states that his main goal was humanitarian rather than intellectual:

My main motive in writing the book was humanitarian, not intellectual. I wanted to support people, not to “advance knowledge”. [...] Today old traditions are being revived and people try again to adapt their lives to the ideas of their ancestors. I have tried to show [...] that science, properly understood, has no argument against such a procedure. There are many scientists who act accordingly. [...] I am not against a science so understood. Such a science is one of the most wonderful inventions of the human mind. But I am against ideologies that use the name of science for cultural murder (Introduction to the Chinese edition, reprinted in Feyerabend 1993: 3-4).

In this passage, it becomes clear that Feyerabend’s defense of pluralism is embedded in a specific and rather idiosyncratic cultural critique. He attacks Western science and the hegemonic ambitions that he associates with the pro-

ponents of the Western rationalistic-scientific worldview because he believes that it leads to a diminishment of the affluence and diversity of human cultures and non-scientific traditions.⁶

In a less considered contribution to a German volume in memory of the Austrian philosopher Walther Schmied-Kowarzik, who was Feyerabend's high school teacher during the war, Feyerabend identifies the more general phenomenon opposing pluralism with the expansion of technological-scientific civilization. He writes:

One of the most important and most depressing phenomena of our time (since the 19th century) is the constant expansion of the Western technological-scientific civilization, its ways of thinking, its problem framings, and the destruction of cultures associated with its expansion. [...] [T]he underlying phenomenon is an increasing monotony under the banner of an unholy alliance between business, technology, and primitive fragments of the sciences (1985: 138, my translation).⁷

This passage reflects his criticism of the tradition of Western science and rationalism that had already been put forward in a rather polemic fashion in *Science in a Free Society*. There, Feyerabend argued that science and the associated materialist-rationalist worldview constitute just one of many traditions, and in a free society, all traditions, including non-scientific and non-rationalist ones, should “*have equal rights and equal access to the centers of power*” (1978: 9).⁸

Feyerabend's extension of pluralism beyond the realm of science and epistemology is part of a general critique of scientific modernity. At the core of Feyerabend's critique stands the fear of uniformity and the hegemony of a scientific technological worldview that would displace non-Western ways of life and diminish the abundance of life and human experience. Kidd (2021) identifies three features of Feyerabend's critique of scientific modernity: 1) an

⁶ For Feyerabend's critique of scientific rationality see also: Feyerabend (1975a; 1976; 1978; 1980; 1987; 2011).

⁷ The German original reads as follows: “Eines der wichtigsten und deprimierendsten Phänomene unserer Zeit (und schon des 19. Jahrhunderts) ist die ständige Ausdehnung der westlichen technologisch/wissenschaftlichen Zivilisation, ihrer Denkweise, ihrer Fragestellungen und die mit dieser Ausbreitung verbundene Zerstörung von Kulturen. [...] [D]as grundlegende Phänomen ist eine zunehmende Monotonie unter dem Banner einer unheiligen Allianz von Business, Technologie und primitiver Bruchstücke der Wissenschaften”. Similar statements can be found in many publications from the 1970s onwards.

⁸ Feyerabend never provides a strict definition of the term “tradition”. However, it becomes clear from his writing in *Science in a Free Society* that a tradition may be seen as a specific way of viewing/approaching life and reality. Thus, traditions clearly contain an element of what is often called “worldview” including the specific forms of knowledge that come also with that worldview. But traditions in Feyerabend's sense clearly also have a practical dimension. They are also ways of life. See also Farrell (2003) for a discussion Feyerabend's use of terms like “tradition” and others.

element of epistemic, environmental, and cultural violence; 2) a form of philistine scientism that goes along with the devaluation of the arts and humanistic values in comparison with the usefulness of science, engineering, and technology; 3) an existential disenchantment of human life due to an impoverished view of reality and nature provided by modern science.

While Kidd acknowledges the merits of Feyerabend's critique of science's self-understanding, he points out that Feyerabend's social and cultural critique suffers from a lack of engagement with relevant philosophical traditions, which offer more consistent criticism of scientism (2021: 176).

Kidd concurs with John Preston's assessment that Feyerabend's technology skepticism and his anti-scientist and anti-modernist views may be seen as an expression of a "reactionary romanticism", a desire to return to a prior state of culture where people were untroubled by intellectuals and their tendency to universalize concepts (Preston 2000: 621-622). Accusing Feyerabend of romanticism may be too strong. He does indeed repeatedly express appreciation for less scientifically influenced forms of life. But this should not be taken as the expression of a utopia that Western societies should turn back to a less modern state of development. Feyerabend seems to be eager to draw attention to the plurality of *possible* forms of life and the diversity and abundance of human cultures, without implying a hierarchy among cultures or a preference for a particular way of life. His criticism of modernity targets all forms of cultural chauvinism, particularly the chauvinism he identifies in some proponents of the scientist-rationalist worldview.

It goes without saying that Feyerabend's critique of scientific modernity must be interpreted against the cultural and political context of his time. From the late 1960s onwards, his writing was influenced by and reacted to contemporary cultural and political debates, including the student movements of the late 1960s, the emergence of environmentalist movements, and post-colonial discourses in the late 1970s and 1980s.⁹ However, as Kidd (2021: 187-188) assesses, Feyerabend rarely engages substantively with contemporary philosophical contributions on topics like feminism or post-colonialism. He also does not systematically contextualize or relate his own cultural criticism to major works in 20th-century philosophy, such as Heidegger's *The Question Concerning Technology*, Husserl's *Crisis of the European Sciences*, or Adorno's and Horkheimer's *Dialectic of Enlightenment*.

This is rather unfortunate indeed, as it would be highly interesting to know to what extent Feyerabend was inspired by and how he integrated into his own

⁹ Oberheim (2006: 24) describes Feyerabend's ability to constantly adapt to changing interest and attitudes as chameleon-like.

thinking approaches and concepts like Husserl's idea of the "lifeworld" (*Lebenswelt*), the notion that all knowledge must be grounded in lived experience. Feyerabend's lack of serious engagement with relevant contributions in the philosophical tradition that would seem to have a lot in common with his own criticism may reflect his disapproval of any sort of generalizing philosophical positions and "isms". His treatment of Husserl is telling in this respect. On the one hand, he calls *The Crisis of the European Sciences* "a remarkable essay"; on the other hand, he accuses Husserl of "astounding ignorance", "phenomenal conceit", and "sizeable contempt for anybody who lives and thinks along different lines" (1987: 274).

4. *A Feyerabendian ethos?*

It was probably John Preston who first identified voluntarism as "one of the most consistent themes in [Feyerabend's] work" (Preston 1997: 20). Indeed, Feyerabend's ethical-normative defense of pluralism is driven by the presupposition that scientific knowledge and the methodological rules guiding scientific knowledge production depend on our decisions. These decisions "can and must be evaluated by reference to our ideals" (Preston 1997: 21). Thus, science as well as the philosophy of science are based on and grounded in ethical values. Preston points out that Feyerabend's objections against theoretical monism must be read against the background of this strong voluntarism.¹⁰

More recently, Martin Kusch (2021) has discussed Feyerabend's voluntarism in relation to Bas van Fraassen's notion of a "philosophical stance". The basic idea of van Fraassen's stance concept is that philosophical accounts should not be understood as positions or doctrines but as stances. A stance can be characterized as a bundle of values, emotions, policies, and preferences. Kusch calls these bundles VEPPs (2021: 89). Like Preston, Kusch also concludes that Feyerabend is an epistemological voluntarist and that his philosophical account should be taken as a stance rather than a position or a doctrine.¹¹

Feyerabend himself is very clear about the voluntarist nature of his approach to philosophy and, in fact, all knowledge. This aspect of Feyerabend's thinking has been present from a very early point. In "Knowledge Without Foundations", we find the following statement:

It must again be repeated that we are here confronted with a real *decision*, that is, a real choice with a situation which has to be resolved on the basis of our demands and

¹⁰ See also Preston's remarks on this in his Introduction to Feyerabend (1999).

¹¹ "Indeed, AM [*Against Method*] is adamant that pluralism is ultimately underwritten by humanitarianism, the system of VEPPs at the heart of epistemological anarchism" (Kusch 2021: 93).

preferences and which cannot be resolved by proof. [...] [E]pistemology or the structure of the knowledge we accept, is grounded upon an ethical decision. This result is very different indeed from what seems to be the commonly accepted point of view. For it is usually assumed that the foundations of our knowledge are things which exist independently of human beings, which can be forgotten, misunderstood, overlooked but not eliminated with the help of a decision. This is quite correct provided we have already accepted a dogmatic point of view that works with certainties. Such a point of view will, of course, treat its own foundations as something that are given and cannot be influenced by human decisions (1961/1999: 72).

This passage helps to understand that Feyerabend's rejection of dogmatism, which he ascribes to monistic philosophies of science, results from his voluntarist stance. Every theory of science that aims at providing a foundation for scientific knowledge production, and which exists "independently of human beings" (i.e., of their decisions), thus becomes a target of Feyerabend's criticism. Foundational questions, according to Feyerabend, cannot be answered by merely studying the historical development of science (Kuhn) or by discovering the one and only method of scientific discovery (Popper). Foundational problems have to be *decided* in the literal sense of the word. The acceptance of a specific methodology or a set of methodological rules always implies a choice on the part of those who adopt those rules or propagate their acceptance. Because adopting a specific set of rules influences the kind and the content of the knowledge that emerges from it, and because that knowledge has implications for society and the lives of people, the decisions that go along with the choice of a methodology must be evaluated on ethical grounds. Such choices become a matter of moral responsibility. In Feyerabend's words:

The fact that almost any philosophical doctrine may find realization either in a *cosmology*, that is, in a theory of the universe that is capable of sensual representation, and/or in a *theory of man*, which may also be sensually realized in a corresponding society – this fact makes it very clear that the procedure leading to the adoption of a philosophical position cannot be *proof* (proof shows that no other position could possibly be realized), but must be a *decision* on the basis of preferences. [...] [T]he problem responsible choice enters even the most abstract philosophical matters and that ethics is, therefore, the basis of everything else (1965: 219).

In a recent talk,¹² Matthew J. Brown has discussed this voluntarist aspect of Feyerabend thinking from a pragmatist-axiological perspective. Brown points out that, for Feyerabend, the aim of science is to promote human flourishing,

¹² At the 17th International Congress on Logic, Methodology and Philosophy of Science and Technology CLMPS, University of Buenos Aires, July 2023.

and that the progress of science cannot be judged in a purely epistemic way. Therefore, to foster the promotion of human flourishing, Feyerabend engages in a historical and philosophical critique of the epistemological obstacles to that flourishing. Knowledge producing activities are thus constrained and guided by ethical and moral values.

Feyerabend seems to be using the term “humanitarianism” as a placeholder for values that he thinks should constrain science. However, it remains unclear from Feyerabend’s writings what he exactly means by “humanitarianism”. Feyerabend at no point argues in favor of any general principles. Neither does he associate himself with an ethical system or engage in any sort of meta-ethical argumentation. It is in fact not at all surprising that we do not find a systematically developed ethical position in Feyerabend’s work. In his autobiography, he clearly states his aversion against any sort of overly generalizing philosophical accounts:

So there were now two types of tumors to be removed – philosophy of science and general philosophy (ethics, epistemology, etc.) – and two areas of human activity that could survive without them – science and common sense (1995: 142).

The question thus remains: How is Feyerabend’s self-ascribed humanitarianism to be understood and what are the values that characterize his humanitarian outlook? Preston (1997: 21) lists humanity, respect for the individual, happiness, joy, pleasure, imagination, sense of humor, and capriciousness as goals that Feyerabend frequently appeals to. Kusch (2021) focuses on the VEPPs of Feyerabend’s humanitarianism. However, Kusch does not describe in detail what Feyerabend’s VEPPs exactly are.

If we were to characterize Feyerabend’s ethical-normative stance in any way, it might best be understood as a form of moral particularism that denies the usefulness of general moral principles or meta-ethical theories and emphasizes the importance of context for moral judgments. It is thus futile to look for general moral or meta-ethical principles in Feyerabend’s works. What is possible, though, is to extract a set of attitudes that appear frequently in Feyerabend’s writing. These include:

- A strong anti-dogmatism, anti-authoritarianism, and anti-hegemonism (theoretical, cultural, political).¹³
- A strong emphasis on the cultivation of individuality and the free development of individuals.

¹³ In his presentation at a Feyerabend workshop at the University Mohammed VI Polytechnic in February 2024, Matteo Collodel identified anti-authoritarianism as a constant underlying motive of Feyerabend’s thinking that must be interpreted in light of his traumatic coming of age in Nazi-occupied Austria and the ensuing experiences during World War II.

- A strong emphasis on the free development of group identities, cultures, and “traditions”.
- Tolerance of heterodox opinions and practices.
- Openness towards non-rationalistic narratives (myths, stories, spiritual & religious traditions).
- Anti-rationalism insofar as the scientific-rationalistic worldview is taken as just one tradition among many.
- Intellectual eclecticism and universalism manifesting itself in the belief in the unity of science and art as well as the unity of natural science and humanities.

To be sure, this list is probably incomplete as it would be easy to ascribe more or different attitudes to Feyerabend. It also cannot be ruled out that upon closer analysis, one would be able to identify tensions and contradictions in these attitudes (such as, for example, tensions between progressive and conservative or between individualist and collectivist attitudes).

A focal point of Feyerabend's ethical stance seems to be his firm belief in a common human nature and a shared humanity. His normative defence of pluralism seems to be driven by the assumption that the bonds created by our universally shared humanity are stronger than the divisions emerging from different philosophies, traditions, cultures, ideologies, systems of belief, or ways of life. This humanistic universalism is expressed most clearly in the somewhat obscure statement that potentially every culture is all cultures:

If every culture is potentially all cultures, then cultural differences lose their inflexibility and become *special and changeable manifestations of a common human nature*. Authentic murder, torture, and suppression become ordinary murder, torture, and suppression, and should be treated as such (1994: 21).

This passage may best be interpreted as the view that the abundance and diversity of human cultures are ultimately manifestations of a common human nature and that actions that inflict harm on humans are morally reprehensible independently of the cultural or ideological reasons that might justify such actions. If anything, it is the belief in a shared human nature and the protection and flourishing of individuals and traditions that constitute the central elements of Feyerabend's humanitarianism.

5. *The relevance of Feyerabend's pluralism for science-based policy*

The fact that the ethical-normative foundation of Feyerabend's pluralism is systematically weak and not well-developed does not render his pluralistic account futile. In a series of papers, Simon Lohse and I have used Feyerabend's

pluralism as a philosophical point of reference to discuss epistemic shortcomings in the science-based policy advice during the COVID-19 pandemic (Lohse *et al.* 2020; Bschrir *et al.* 2022; see also Bschrir *et al.* 2024). Our goal was to show that Feyerabend's arguments in favor of epistemic pluralism are useful to highlight the importance of inner-scientific pluralism, as well as the inclusion, of extra-scientific perspectives in science-based decision-making processes.

The scientifically informed policy responses to the COVID-19 pandemic were subject to a variety of criticisms. One type of criticism targeted methodological aspects of the science that informed policies during the pandemic. There were controversies surrounding the quality of the available evidence on which policy measures were based (e.g. Ioannidis 2020). Others pointed at the uncertainties of model-based predictions (e.g. Saltelli *et al.* 2020; Chin *et al.* 2021), and doubts were raised about the transferability of projections and policy interventions between different countries (e.g. Sebhatu *et al.* 2020). Another important line of criticism highlighted an imbalance in favor of biomedical and epidemiological perspectives at the expense of others, in particular of socio-economic (e.g. Broadbent *et al.* 2020) and societal perspectives (e.g. Lohse *et al.* 2021). The latter kind of criticism may be interpreted as highlighting a lack of epistemic pluralism in the scientific knowledge that informed policies during the pandemic.

As seen in the previous sections, Feyerabend clearly emphasizes the importance of pluralism within science. Pluralism is epistemologically beneficial as it fosters the detection of errors and limitations in received approaches. But, according to Feyerabend, pluralism also has implications for the relationship between science and society and the role of scientific expertise. Since he does not limit the domain of permissible alternatives to scientific theories, his account also provides good arguments for the inclusion of extra-scientific perspectives. In order to bring Feyerabend's pluralism to bear in the analysis of the epistemic shortcomings in the response to the COVID-19 pandemic, we reconstruct Feyerabend's pluralist account along four key elements (see Bschrir *et al.* 2022: 440-441).

The first element is fallibilism. Feyerabend's epistemic pluralism is based on the supposition that it is reasonable to assume the fallibility of even the most successful scientific theories and methods.

The second element is the emphasis on the importance of alternatives in revealing the shortcomings in established methods and theories. Alternatives are necessary, according to Feyerabend, to unearth problems and limitations, which would remain invisible in the absence of the alternatives.

The third element, proliferation, is closely related to the second. Because alternatives can highlight problems and limitations of any given theory or method, the active development and simultaneous application of a variety of ap-

proaches can help to avoid myopia with respect to a given epistemic problem.

The fourth element is the extension of pluralism beyond scientific approaches. For Feyerabend, non-scientific forms of knowledge (practical knowledge or the knowledge of local communities) can constitute important correctives to scientific approaches, as they can provide insights into aspects of a given problem (i.e. the question of how to manage a global pandemic at the local level) that would remain invisible in a strictly scientific perspective. This is relevant for policy making, because the insights that such non-scientific perspectives can provide, may be highly relevant to those affected by policy measures.

Using this reconstruction of Feyerabend's epistemic pluralism, we were able to highlight the importance of pluralism in the context of COVID-19 policies on three levels.

Intra-disciplinary pluralism: Within a discipline (e.g. epidemiology) perusing a multitude of methodologies and theoretical approaches can help to highlight the shortcomings of each alternative. This is particularly important in situations where scientific results can have a direct influence on policy. The application of a variety of epidemiological modeling approaches (e.g., standard SIR models alongside network and agent-based models) to inform policy during the pandemic is a good case in point.

Interdisciplinary pluralism: Although the reconstruction of Feyerabend's pluralism in Section 2 against the background of his critique of Kuhn mainly focuses on pluralism within a discipline, we argue that it also provides good arguments for interdisciplinary pluralism. In the context of the COVID-19 pandemic, this would have meant avoiding a concentration on biomedical and epidemiological perspectives alone, and including insights from other disciplines and the social sciences. The latter are particularly important not only for assessing the societal consequences of policy measures (e.g., school closures or lockdowns of elderly homes) but also for identifying social effects of policies in different sections of society (see e.g., Sari *et al.* 2021).

Science-transcending epistemic pluralism: Finally, we can use Feyerabend's account to support arguments in favor of science-transcending epistemic pluralism, highlighting the importance of extra-scientific perspectives and local forms of knowledge, for example, for the detection of unintended negative consequences or in the design, implementation, and assessment of policy measures.

It is beyond the scope of this summary to discuss the many practical challenges that the implementation of pluralism in science-based policy-making

poses (for a discussion of these challenges see Section 5 in Bschir *et al.* 2022 and Bschir *et al.* 2024). While some of these challenges are serious and need to be addressed in future studies, our goal was to provide good arguments for more pluralism at the science-policy interface based on Feyerabend's account, thus highlighting the potential relevance of Feyerabend's pluralist stance in current contexts. Considering Feyerabend's voluntarism, it also becomes clear that implementing more pluralism at the science-policy interface is not only epistemologically desirable, but that it implies a deliberate choice that can and must be evaluated in light of its practical consequences and ethical implications.

6. Conclusion

I have examined the hitherto underexplored relationship between Feyerabend's pluralist philosophy of science and the ethical-normative humanitarian account that underlies his epistemological position. I have shown that while his epistemic pluralism is well-argued and systematically developed, his ethical position is systematically rather weak. The main reason for this is that Feyerabend explicitly denied the validity and legitimacy of any sort of general philosophical or ethical accounts. His approach to ethics can best be characterized as a form of moral particularism that does not provide any sort of general ethical principles but, at best, puts forward a set of implicit values and attitudes.

The systematic weakness of Feyerabend's ethical-normative account does not diminish the relevance of his pluralistic philosophy of science. Quite on the contrary, the latter can be brought to bear in the current contexts, for example in science-based policymaking during the COVID-19 pandemic. Feyerabend's pluralism is useful to address the epistemic shortcomings in the policy responses to the pandemic, such as the imbalance in favor of biomedical and epidemiological perspectives at the expense of socioeconomic and societal perspectives.

Feyerabend's account of pluralism reconstructed along four key elements – fallibilism, the importance of alternatives, proliferation, and the extension beyond scientific approaches – provides robust arguments for intra-disciplinary, interdisciplinary, and science-transcending epistemic pluralism. His arguments support the inclusion of diverse methodologies and theoretical approaches within disciplines, the integration of insights from different disciplines, as well as the consideration of non-scientific forms of knowledge in policymaking.

Implementing pluralism in science-based policymaking is not only epistemologically desirable but also involves deliberate ethical choices that must be evaluated in light of their practical implications. It remains a matter of

future research to investigate the potential relevance of Feyerabend's epistemic pluralism in other contexts, such as, for example, economic or environmental policy.

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