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THE ANACHRONISTIC ANARCHIST*

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I. INTRODUCTION

Paul Feyerabend was certainly one of the most colorful, provocative, combative, erudite, and original philosophers of our age.

I didn't know any of this when I was twenty-two – when I was assigned *Against Method*[1] as the final book in a survey course on the history of modern philosophy – the previous reading having included Descartes, Locke, and Kant's *Prolegomena to Any Future Metaphysics*. The course had been run along a typical line – the empiricists vs. the rationalists, and so on – until that point. So it would be fair to say that I was corrupted at an early age, *Against Method* being the very first philosophy of science I ever read. And I loved it. I was pre-med at the time, with a major in political theory, and here it was – a book that finally made sense of what I'd learned as a science major, and said what was wrong with the various ways that philosophers had approached the sciences.

Little did I realize at the time that Paul Feyerabend's views were considered, by many, to be anti-philosophical, anti-reason, and anti-scientific, not to mention iconoclastic or idiosyncratic.

II. PROVOCATION

Paul himself did not help matters. Perhaps it was his theatrical training and background, perhaps his ambivalence about academics themselves – at any rate, he did succeed in provoking many, if not most, academic philosophers.

Consider the slogan by which he is best known:

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ANYTHING GOES.

Feyerabend knew perfectly well that this slogan would be unpopular among his contemporaries – and he also probably wasn't expecting to make friends by expressing his opinion that "political philosophy and the philosophy of science have become sinks of illiterate self expression" (SFS, p. 10) – or that "fields such as the philosophy of science, or elementary particle physics, or ordinary language philosophy, or Kantianism should not be *reformed*, but should be allowed to die a natural death" (SFS, p. 122; emphasis mine).

Feyerabend labeled himself an *epistemological anarchist*, where an anarchist, he says, "is like an undercover agent who plays the game of Reason in order to undercut the authority of Reason (Truth, Honesty, Justice, and so on)" (AM, pp. 32-33).

And indeed, the visions he had for future science (as well as his analyses of past science) evoked panicked and/or contemptuous accusations of irrationalism, and it is easy to see why. In discussing the development and content of scientific theories and methods, for example, Feyerabend recommends the following version of constructive criticism:

We must, he says, "step outside the circle [of the customary views] and either ... invent a new conceptual system, for example a new theory, that clashes with the most carefully established observational results and confounds the most plausible theoretical principles, or ... import such a system from outside science, from religion, from mythology, from the ideas of incompetents, or the ramblings of madmen" (AM, p. 68). And he also includes magic, witchcraft, and astrology, as areas towards which philosophers of science should re-examine our attitudes (AM, pp. 100, 298).

Feyerabend was completely serious, then, in his claim that "*there is no idea, however ancient and absurd that is not capable of improving our knowledge. The whole history of thought is absorbed into science and is used for improving every single theory*" (AM, p. 47; his emphasis, as chapter heading).

The problem with reexamining such old traditions is, he says, that "*science still reigns supreme.* It reigns supreme because its practitioners are *unable to understand*, and *unwilling to condone*,

different ideologies, because they have the *power* to enforce their wishes, and because they *use* this power just as their ancestors used *their* power to force Christianity on the peoples they encountered during their conquests" (AM, p. 299, his emphasis).

But Feyerabend believes that *might does not make right* – and he recasts the role of scientists:

> Experts and laymen, professionals and dilettanti, truth-freaks and liars – they all are invited to participate in the contest and to make their contribution to the enrichment of our culture. The task of the scientist, however, is no longer 'to search for the truth', or 'to praise god', or 'to systematize observations', or 'to improve predictions'. These are but side effects of an activity to which his attention is now mainly directed and which is '*to make the weaker case the stronger*' as the sophists said, *and thereby to sustain the motion of the whole*. (AM, p. 30; his emphasis).

One might fear, though, that this 'motion of the whole' goes exactly nowhere – or rather, it may move us backwards, or around in circles, but *not* any closer to truth about the way things are.

But no – Feyerabend claimed that anarchism is "*necessary* both for the internal progress of science and for the development of our culture as a whole. And, Reason, at last, joins all those other abstract monsters such as Obligation, Duty, Morality, Truth and their more concrete predecessors, the Gods, which were once used to intimidate man and restrict his free and happy development: it [reason] withers away ... " (AM, p. 180; his emphasis).

But enough provocation. On my interpretation, Feyerabend's views are actually neither anti-science nor anti-reason, neither anti-intellectual nor anti-progress. The *key*, I think, to understanding Feyerabend's work as a whole, is to keep in mind his historical context, and to grasp that he thought that much of twentieth century philosophy of science (and philosophy of mind, language, and epistemology) was both wrong and pernicious – hopelessly misguided in its methods and aims, and dangerously immoral in its consequences.

III. BETTER PHILOSOPHY OF SCIENCE

I will focus on what I think is the heart of Feyerabend's thought, i.e., his arguments about *methods* involved in seeking scientific knowledge.

The basic story is this. In the late nineteenth & early twentieth centuries, research in the sciences challenged some very basic commonsense assumptions about what reality is like. (Feyerabend, unfortunately, limits his discussion to physics, but the same goes for biology, with the development of evolutionary theory.)

Systematic conflicts between scientific views and commonsense date back to the Greeks, within the Western traditions. Throughout two millennia, then, natural philosophers had attempted to resolve these conflicts, and to develop methods that would allow them access to reality itself.

Then along came a diverse group of scientists and philosophers, now called 'the logical positivisits', who attempted to sort out real scientific knowledge from superstition, commonsense, myth, and other less-than-privileged forms of knowledge.

In doing so, they focused partly on developing formalized rules and patterns of explanation and prediction; this, in turn, necessitated an elaboration of theories of the *meanings* of various scientific terms and the relations among them. Here we got: theories as axiomatizable sets of sentences; the distinction between observation sentences and theoretical statements of the theory; the distinction between the context of discovery and the context of justification; and a deductive view of testing, confirmation, explanation, reduction, prediction, and the relations between theory and observation.

I believe that much of Feyerabend's corpus can be best understood as detailed attacks on various aspects of logical positivist views about science. But before going any further, it is extremely important to understand that Feyerabend's views about methods are *not* simply descriptive historical claims about the way that science *actually works*; rather, they are explicitly and adamantly *normative*. Hence, the familiar philosophical retort to a historian pointing to some bizarre moves in past science – namely, "well, all that shows is that scientists aren't always rational" – is *not available* to counter Feyerabend's view. Feyerabend repeatedly argues that *it's necessary for the progress of knowledge and science that people break whatever rules of reason, logic, or consistency by which they are supposed to be constrained.*[2]

I will simply assert, at this point, that Feyerabend is very concerned to defend a fairly permissive rationality, that he is *not*

a relativist, and that one of his central aims is to encourage philosophical views about science that are historically grounded, well-acquainted with scientific practices, and *not* obsessed with uncovering the one-and-only true scientific method. In what follows, I will outline several of Feyerabend's essential commitments to the importance of proliferation, pluralism, realism, criticism, and history.

I shall then display some remarkable similarities between Feyerabend's views and those of the founder of American Pragmatism, Charles S. Peirce.[3] I'm not going to claim that this strange convergence makes their views true – they could both be wrong. But I will offer a possible explanation for how these two notably different and original thinkers may have arrived in some of the same places.

Let us turn now to a brief summary of some of Feyerabend's positive commitments. I shall sketch out five interrelated facets of his philosophy of science: realism; pluralism; proliferation; criticism; and the vital role of history in the actual practice of science.

First of all, Feyerabend defended what he called *Proliferation* of theories, frameworks, methods, and data, on the basis that it is *vital* to good testing of standard or leading hypotheses.[4] "Empiricism, at least in some of its more sophisticated versions," says Feyerabend, "demands that the empirical content of whatever knowledge we possess be increased as much as possible. *Hence the invention of alternatives to the view at the center of discussion constitutes an essential part of the empirical method*" (AM, p. 41; his emphasis).

This all sounds perfectly sensible, until Feyerabend spells out what he wants to include in that proliferation. He begins with the well-substantiated claim that recent discussions in the history and philosophy of science have shown that such scientific advances as the invention of atomism in antiquity, the Copernican Revolution, the rise of modern atomism and quantum theory, and the emergence of the wave theory of light, "occurred only because some thinkers either *decided* not to be bound by certain 'obvious' methodological rules, or because they *unwittingly broke* them" (AM, p. 23; his emphasis).

"This liberal practice . . . ," Feyerabend continues, "is not just a *fact* of the history of science. It is both reasonable and *absolutely necessary* for the growth of knowledge. More specifically, one can show the following: given any rule, however 'fundamental'

or 'necessary' for science, there are always circumstances when it is advisable not only to ignore the rule, but to adopt its opposite" (AM, p. 23; his emphasis; cf. 1981, Vol 1, p. 76).[5]

One of Feyerabend's favorite examples of a disobedient but brilliantly successful scientist, is Galileo. Feyerabend argues: "what Galileo did was to let refuted theories support each other, that he built in this way a new world-view which was only loosely (if at all!) connected with the preceding cosmology (everyday experience included), that he established fake connections with the perceptual elements of this cosmology which are only now being replaced by genuine theories (physiological optics, theory of continua), and that whenever possible he replaced old facts by a new type of experience which he simply *invented* for the purpose of supporting Copernicus" (AM, p. 160; his emphasis).

And Feyerabend applauds Galileo's moves, not simply because he admired what he called Galileo's "style ... sense of humor, elasticity and elegance, [and his] awareness of the valuable weaknesses of human thinking" (AM, p. 161) – but because Galileo's success *required* that he break the methodological rules and expectations of his own scholarly community. According to Feyerabend, then, "Galileo succeeds, because he did not follow the [established methodological] rules ... *Ignorance was bliss*" (AM, p. 112; his emphasis).

Similarly, the *Pluralism* that Feyerabend endorses involves taking seriously – not simply 'tolerating' – a wide variety of different methods and accounts of the world.[6] His defense of such pluralism is that it makes for better empirical sciences. In Feyerabend's words:

> A scientist who wishes to maximize the empirical content of the views he holds and who wants to understand them as clearly as he possibly can must therefore introduce other views; that is, he must adopt a *pluralistic methodology*. He must compare ideas with other ideas rather than with 'experience' and he must try to improve rather than discard the views that have failed in the competition. (AM, p. 30; his emphasis).

Here, Feyerabend's general views about knowledge itself come into play. He writes, "Knowledge so conceived is not a series of self-consistent theories that converges towards an ideal view; it is not a gradual approach to the truth. It is rather an ever increasing *ocean of mutually incompatible (and perhaps even incommensurable) alternatives*, each single theory, each fairy tale, each myth that is part of

the collection forcing the others into greater articulation and all of them contributing, via this process of competition, to the development of our consciousness" (AM, p. 30; his emphasis).

This anti-convergence position may be surprising to some, because Feyerabend identified himself as a *realist*, and defended scientific realism throughout his writings.[7] These days, scientific realism is often – though not always – linked with convergence on – or successive approximation to – the *true* categories, objects, relations, and laws of nature; and clearly, Feyerabend rejected such convergence as even desirable (1981, Vol 1, p. 107).

In fact, a closer look at Feyerabend's defense of scientific realism reveals something very odd: he argues that realism is vital to successful proliferation, because it ensures that the theories will be followed as far and as seriously as they can be. He argues, "The power of a theory can be fully utilized only if it is not treated as an instrument for prediction, so that the local grammar is allowed completely to determine the 'nature of things'" (1981, Vol 1, p. 119); "... [hence] there exist very good *abstract reasons* why a new theory should be used everywhere: only this procedure will lead to the strongest possible criticism of the received point of view" (1981, Vol 1, p. 127; his emphasis).[8]

In other words, *Feyerabend defends realism on pragmatic grounds.*[9]

Similarly, Criticism must come from outside the main tradition at stake. Insiders to that tradition must not be regarded as its only competent critics; outsiders, from very different traditions, must be addressed seriously (AM, pp. 9–10). Feyerabend's emphasis on the importance of maintaining living histories of all forms of human knowledge is grounded in this commitment to the importance of deeply challenging criticism.[10]

Finally, it is precisely because discarded or archaic or alien theories are necessary to illuminate and inform our current knowledge, that Feyerabend sees history as an integral and necessary facet of good scientific research.[11]

In summary so far, I've sketched five aspects of Feyerabend's positive views about the development of scientific knowledge: proliferation, pluralism, realism, criticism, and the place of history. We

turn now to my analysis of Charles Peirce as Paul Feyerabend's strange bedfellow.

IV. AMERICAN PRAGMATISM & EPISTEMOLOGICAL ANARCHY

I have noticed a number of curious similarities between Feyerabend's views and those of Peirce, and I think it's worth exploring these similarities, in spite of the fact that there are serious complications in comparing the two authors: they were working in different contexts, arguing against different opponents and assumptions, and writing nearly a century apart. Furthermore, I have found no evidence that Feyerabend ever *read* Peirce. I would speculate that this was because Peirce has been so frequently *mis*-read as a neo-Kantian during most of this century – and Feyerabend was no fan of Kant – and also because John Stuart Mill's empiricism seemed like a much more attractive intellectual ancestor to Feyerabend.

It may seem implausible or surprising that there would be parallels between Feyerabend's and Peirce's views; after all, Peirce is most famous for being a 'convergent realist' and for his notion of 'the end of inquiry', an ideal limit in which unanimity in knowledge about reality is reached.

So let us consider one potentially crucial difference between Feyerabend and Peirce. Is Feyerabend a convergent realist like Peirce?

The quick answer is that *Peirce himself* wasn't a convergent realist in the sense so often attributed to him. Allow me to make a brief digression to straighten out the record on Peirce's 'realism' and 'convergence'.

David Wiggins, for instance, describes a "Peircean view of Science ... as discovering that which, the world being what it is, is destined to be ultimately agreed on by all who investigate" (Wiggins 1976, p. 361). In support, Wiggins quotes from Peirce: "The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by truth, and the object represented in this opinion is the real" (Peirce 1878a, p. 139).[12] Wiggins' interpretation is ambiguous here, about whether the ultimate conceptual scheme is *necessarily what it is*, rather than being something else, but he subsequently attributes to Peirce the view that "there is a *reality which*

dictates the way a scientific theory has to be in order that what happens in the world be explained by the theory" (1976, p. 362; my emphasis).

This sort of characterization of Peirce – pervasive as it may be – is clearly contradicted by Peirce's writings. I'd like to emphasize several aspects of Peirce's thought that decisively disqualify him as this type of *convergent realist.*

Segments of Peirce's writings, with their appeal to 'fated' ends, may appear to commit him to a view of knowledge and reality in which Real things eventually *force* inquirers into True understandings of them. But this is the exact opposite of Peirce's view. In fact, immediately following the widely quoted passage (above), regarding the "opinion ... fated to be ultimately agreed to ...," Peirce insists that his view "makes the characters of the real" depend on "what is ultimately thought about them" (1878a, p. 139). He argues that his view of Reality is *therefore incompatible* with what he calls an *a priori*, rationalist, or 'abstract' definition of reality, and he concludes that Reality – what anything really is – "depends on the ultimate decision of the community" (1868, p. 54). Still, in spite of this genuine dependence on community-mediated cognitions, the outcome of such investigation "is the real, as it really is" (1868, p. 52; *cf.* Hacking 1983, p. 58).

Perhaps Peirce's decisive dissension with *convergent realism* is made most clearly in his views about Types and Laws of Nature. Briefly, he thinks that Laws of Nature are those among an infinity of regularities in the universe, distinguished only by the fact that *we* are interested in them; there is nothing 'inevitable' about them, or about *their appearance* at the end of inquiry.

Although Peirce calls himself a 'realist' about Types, his is not the sort of realism in which Types correspond to some sort of 'Natural Kinds' or natural divisions in Nature – and this lack of correspondence results not simply because of the fallibility inherent in any stage of inquiry; it also holds for the Types upon which the ideal community of inquirers would ultimately agree.

On the status of Laws and Types in Nature, Peirce starts from de Morgan's *logical* point that "any plurality or lot of objects whatever have some character in common (no matter how insignificant) which is peculiar to them and not shared by anything else" (1878,

p. 174). This means that there are infinitely many ways of dividing the universe up into Types, or of grouping things together by *similarity*. He further argued that we ought to consider the characters of things "as relative to the perceptions and active powers of living beings" (1878b, p. 175). He concludes from this that if we *do not* rank characters by their relative importance *to us*, there would be no greater or lesser degree of uniformity in the world (1878b, p. 175); hence, we *must* decide which characters to focus on, in order to make any generalizations about nature at all (1878b, p. 176). That is, the similarities which are *essential* to any sort of empirical reasoning depend on *some imposition of our interests*.

In sum, the popular representations of Peirce's views on the inevitability of convergence on one Truth are essentially faulty, because they fail to address the deep contingency and interest- and value-dependence involved in his understanding of that Truth. Peirce insisted on the irreducible and necessary dependence of Types and Laws of Nature on the *interests and values of scientific communities*.

Now, having given a breakneck tour of some of Peirce's key points, I'd like to highlight the following similarities between Peirce's and Feyerabend's views:

First, neither of them were convergentists, in the sense of believing that there is only *one true* set of categories, properties, and relations that real things have, and therefore only *one true* description of the Real.

Second, they both argued *against* the possibility *and desirability* of any universal, unchanging set of methods or methodological rules guiding scientific inquiry.

Third, they both emphasized the *indispensability* – to the *process* of inquiry – of a diverse set of hypotheses, and the value of actively pursuing a variety of even possibly ontologically incompatible theories.

One might object that Peirce saw *community unanimity* as the ultimate and desirable end of inquiry, while Feyerabend thought that consensus is fatal to the development of knowledge.

But the clash here is illusory. Peirce insisted on the importance of entertaining and pursuing a wide variety of hypotheses, *wherever* we may be in the course of inquiry, and he noted that dogmatic agree-

ment at any stage could effectively *shut down* the process of inquiry altogether. And Feyerabend's point seems to be the same; consensus, he says, implies dogmatism, lack of imagination, intolerance, and lack of free expression.

Fourth, both Peirce and Feyerabend believed in the possibility of progress in knowledge, and both defined that progress purely *in relation to human goals and purposes.*[13]

Fifth, both believed that the values given to all the various aspects of the ways that the human community lives are a necessary and *integral* part of inquiry, and that these values give direction to any and all research.

Sixth, both hold pragmatic views of scientific theory choice. Which theory to adopt depends on what you want to *do* with it – that is, on its purpose and role in the values that persons find worth pursuing.

Finally, both Peirce and Feyerabend held that the sciences are *inextricably* tied to qualities of life – personal, social, and political.

Having reflexively applied Feyerabend's recommendations to use different frameworks to illuminate and deepen our understanding of each of Peirce's and Feyerabend's views, I would like to offer a speculation about *why* Feyerabend and Peirce share the similarities that they do. Simply put, they were both *fiercely anti-rationalist.*[14] Peirce rails against *a priori* knowledge and other parts of philosophical rationalism, while he ingeniously defends the possibility of genuinely open empirical inquiry. *Prima facie*, it looks as if Feyerabend is on the other side of the fence, because his prime targets were logical positivists and their mutations. But Feyerabend was strongly empiricist in his fundamental commitments; what he resisted were the parts of some positivist positions under which the evaluation of scientific views is a strict, transparently rational, and rule-governed activity.

Unfortunately, I don't have time today to expand on the many common threads running between Feyerabend's work and the views of philosophers, historians and sociologists of science working in the past few decades.[15] In fact, partly through the work of these authors, some of Feyerabend's claims about method, inference, information, and explanation, and his views on realism, pluralism, proliferation,

and criticism, are accepted as *standard* by so many philosophers of science, including beginning graduate students – that is, they are such a basic part of philosophical background to understanding the sciences – that Feyerabend's name is virtually never mentioned in the context of these views.

This, I would say, is success.

Perhaps the most significant accomplishment of these recent decades of work has been the effective destruction of a particular *mythology* of science: as hermetically sealed, non-personal, and politically, morally, and socially neutral. Feyerabend attacked this myth repeatedly, and he was completely serious about the legitimacy of political intervention in the sciences: "*political interference ... may be needed to overcome the chauvinism of science that resists alternatives to the status quo*" (AM, p. 47; his emphasis). And again, "proliferation may have to be enforced by non-scientific agencies whose power is sufficient to overcome the most powerful scientific institutions. Examples are the Church, the State, a political party, public discontent, or money" (AM, p. 52).

And I would like to emphasize that changing views of the sciences and activism regarding their relations to social, personal, and political values, *can and do* change things in the real world: Within the past five years, the National Institutes of Health has created and funded both a program for the (previously neglected) study of women's health, and a center for research into alternative medicine.

V. PROVOCATION REVISITED

Finally, let's revisit the common wisdom about Paul Feyerabend, and take a second look at the infamous slogans I mentioned at the beginning.

Consider ANYTHING GOES.

The context of Feyerabend's claim is:

> It is clear ... that the idea of a fixed method, or of a fixed theory of rationality, rests on too naive a view of man and his social surroundings. To those who look at the rich material provided by history, and who are not intent on impoverishing it in order to please their lower instincts, their craving for intellectual security in the form of clarity, precision, 'objectivity', 'truth', it will become clear that there is only *one* principle that can be defended under *all* circumstances and in *all* stages of human development. It is the principle: *anything goes*. (AM, pp. 27–28; his emphasis).

My reading of this is that Feyerabend wanted to put a stop to the application of a philosopher's disease – namely, the relentless pursuit of universal principles – to the understanding of knowledge. The search for universal methods of getting at truth or at reality – having gone on for two millennia – is a flawed project. Not simply because we've never gotten it quite right, or really understood it, but because we have good reasons to believe that methodological *rules* used in the pursuit of knowledge will, in fact, *impede* the development and acquisition of knowledge. *All methodologies have limits* (AM, esp. p. 32).

Feyerabend himself was completely explicit about this: "'*anything goes' does not express any conviction of mine, it is jocular summary of the predicament of the rationalist:* if you want universal standards, I say, if you cannot live without principles that hold independently of situation, shape of world, exigencies of research, temperamental peculiarities, then I can give you such a principle. It will be empty, useless, and pretty ridiculous – but it will be a 'principle'. It will be the 'principle' 'anything goes'" (SFS, p. 188; his emphasis).

In other words, 'anything goes' is designed precisely to infuriate those philosophers of science still seeking the Holy Grail of true and universal scientific method. It is not merely a mockery, a provocation; it is not merely a statement of our human limitations; for Feyerabend, it is rather a reasoned conclusion drawn from what we know – or ought to know – about the history of knowledge and about human flourishing.

Ultimately, I would argue, Feyerabend's most fundamental concern is for human flourishing, and for creating and maintaining any necessary social conditions for it. Feyerabend's various positive views have a moral and political dimension:

> ... we have seen that the belief in a unique set of standards that has always led to success and will always lead to success is nothing but a chimera. The *theoretical* authority of science is much smaller than it is supposed to be. Its *social* authority, on the other hand, has by now become so overpowering *that political interference is necessary to restore a balanced development* ... [and] a balanced presentation of the evidence [about cases of political interference in science] may even convince us that the time is overdue for adding the separation of state and science to the by now quite customary separation of state and church. (AM, p. 216; his emphasis).

I have suggested here that Paul Feyerabend was right about many things – he was also ahead of his time. So far ahead, in fact, that many influential views in science studies today – that *he* articulated and defended – bear no association with his name.

I have a feeling that Paul – the ultimate individualist, the dramatic iconoclast – would not like to be painted as a leader of a crowd. Anarchism is, after all, anarchistic. Still, I thought that it would be fitting, in a memorial symposium for him, to go beyond his memorable slogans, beyond his mischievous, sparking blue eyes, and to remind ourselves of his passionate devotion to intellectual life and his respect for genuine and humane curiosity, and of his rich and original contributions to the ways we study knowledge and science today.

NOTES

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[1] *Against Method* (1975) will be cited as 'AM'; *Science in a Free Society* (1978) as 'SFS'. Also, I would like to thank Prof. Forrest Williams, who taught the class in question, at the University of Colorado, Boulder.

[2] *E.g.*, AM p. 23; 1981 Vol. 1, pp. 4, 16, 105, 111, 117, 121, 140–141, 157, 177, and esp. p. 76.

[3] Months after I delivered this paper at the Pacific APA, I found my notes from Prof. Williams' class, mentioned above. And I must state here that Prof. Williams' two final assignments and lectures for that class included none other than Peirce and Feyerabend's 'new' book at the time, *Against Method*. Williams, however, interpreted Peirce as a neo-Kantian – an interpretation that I believe is mistaken – and thus did not focus on the authors' similarities.

[4] *See* 1981 Vol 1, pp. 105, 140–141.

[5] This is an activity Feyerabend calls 'counterinduction'.

[6] *See* 1981, Vol 1, p. 200; 1981, Vol 2, p. 65. Feyerabend ultimately included a set of political and social concerns supporting pluralism, as well (*cf.* John Stuart Mill's *On Liberty*).

[7] *E.g.*, 1981, Vol 1, pp. 145, 200–201.

[8] *Cf.* 1981, Vol 1, p. 145.

[9] 1981, Vol 1, p. 36; SFS, pp. 9–10.

[10] *See* 1981, Vol 1, pp. 59, 139.

[11] AM, p. 19; 1981, Vol 1, pp. 4, 140–141.

[12] Peirce's article is reprinted in *The Essential Peirce*, Vol 1 (1992). References to Peirce's papers will appear with their original dates of publication, while page numbers will refer to the 1992 edition, unless otherwise noted.

[13] On Peirce's view, this would refer to *ideal* human goals and purposes.
[14] *I.e.*, 'rationalism' in the sense of a Cartesian or Hegelian top-down ontology.
[15] I would simply mention the works of John Beatty, Werner Callebaut, Nancy Cartwright, Paul Churchland, Lorraine Daston, Michael Dietrich, Steve Downes, John Dupre, Arthur Fine, Steve Fuller, Peter Galison, Ron Giere, Stephen Jay Gould, James Griesemer, Ian Hacking, Donna Haraway, Sandra Harding, David Hull, Philip Kitcher, Bruno Latour, Richard Lewontin, Helen Longino, Ernan McMullin, Nancy Nersessian, Tom Nickles, Joseph Rouse, Isabelle Stenger, Bas van Fraassen, among many others, and most importantly, Thomas Kuhn.

REFERENCES

Feyerabend, Paul K. (1975) *Against Method: Outline of an Anarchistic* Theory of Knowledge*. London. UK: Verso.
Feyerabend, Paul K. (1978) *Science in a Free Society*. London, UK: Verso.
Feyerabend, Paul K. (1981a) *Realism, Rationalism & Scientific Method: Philosophical Papers Volume 1*. Cambridge, UK: Cambridge University Press.
Feyerabend, Paul K. (1981b) *Problems of Empiricism: Philosophical Papers Volume 2*. Cambridge, UK: Cambridge University Press.
Hacking, Ian (1983) *Representing and Intervening*. Cambridge, UK: Cambridge University Press.
Peirce, C.S. (1868). "Some Consequences of the Four Incapacities." Journal of Speculative Philosophy 2: 140–157. (Reprinted in *The Essential Peirce* Vol. 1, N. Houser & C. Kloesel (Eds.), 1992, pp. 28–55. Bloomington, IN: Indiana University Press.)
Peirce, C.S. (1878a). "How to Make our Ideas Clear." Popular Science Monthly 12 (January 1878): 268–302. (Reprinted in *The Essential Peirce* Vol. 1, N. Houser & C. Kloesel (Eds.), 1992, pp. 124–141. Bloomington, IN: Indiana University Press.)
Peirce, C.S. (1878b). "The Order of Nature." Popular Science Monthly 13 (June 1878): 203–217. (Reprinted in *The Essential Peirce* Vol. 1, N. Houser & C. Kloesel (Eds.), 1992, pp. 170–185. Bloomington, IN: Indiana University Press.)
Wiggins, David (1976) *Truth, Invention and the Meaning of Life*. Philosophical Lecture, University of London.

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