

A Parting Shot at Misunderstanding: Fuller vs. Kuhn

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Review essay of Steve Fuller, *Kuhn vs. Popper: The Struggle for the Soul of Science*. Cambridge: Icon Books; Crows Nest, NSW: Allen & Unwin, 2003. Pp. 227. UK £9.99, Australia \$29.95 HC.

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The question of the political character of science, and of what side one ought to take about science, celebratory or critical, is a complex and confusing domain which Fuller tries to simplify and package in a novel way in this interesting, footnote-free, reflection by identifying, in the history of twentieth century discussions of science, a “Left rationalism” that can say something critical and novel about science. In his book on Thomas Kuhn, Fuller contrasted Kuhn’s politics of science to Ernst Mach’s. Mach was the good guy, who was for democratizing science, and Kuhn was the bad guy, a proponent of a “Cold War” authoritarian conception of science which treated science education as a form of indoctrination, who regarded external influences on science negatively and characterized science in a way that made democratic scrutiny impossible, since it elevated the scientific community to a kind of sacred cow which could only be accommodated and not held to external standards.

This book follows up on this general approach by bringing in the Popper-Kuhn debate of the 1960s, which was concerned with criticism and the growth of knowledge, as the title of Lakatos and Musgrave’s famous book put it (*Criticism and the Growth of Knowledge* 1970). Karl Popper defended a model of science as a debating society, in which conjectures were

refuted and the process was iterated. For Kuhn, science was a closed sect that worked on puzzles within an unchallenged framework and ignored anomalies until it no longer could. This “conservatism” of science was, for Kuhn, a good and necessary thing. Fuller abhors this conception of science. The problem this book takes on is to get a new account by marrying the Popperian view of science to the idea of democratic science and the political Left, an account which combines such political values as the rule of law with open discussion.

The Burden of History

There are some large obstacles to this marriage, as anyone familiar with the past history of the betrothed would note, that can be put in the form of some questions. Wasn't Popper a kind of liberal, and isn't Popper's idea of the Open Society a liberal idea? Isn't government by discussion, along with such notions as the rule of law, quintessentially liberal? Didn't the Left historically dismiss these notions as props of bourgeois power, from Dewey, who railed against constitutionalism in the United States, to European thinkers, including the Frankfurt School's legal theorists, who always spoke of the rule of law as “bourgeois”, saw it primarily as a means of defending property, and in the Weimar era sought to eliminate judicial review as a threat to parliamentary sovereignty? Didn't the Workers in the Weimar Republic march to the chant “A Republic is not so Grand, for Socialism we take our Stand”, suggesting that their support of the liberal democracy that the SPD itself subscribed to was at best instrumental? Didn't the behavior of the SPD in Weimar represent a pattern of running away from political responsibility and a preference for critique and moralizing that was inappropriate for a party that was supposed to be a participant in a liberal democracy? Didn't the aristocratic Red Left of Science in England— J.

D. Bernal, Patrick M. S. Blackett, and their allies, disdain existing liberal democracy, prefer the rule of experts, and espouse a syndicalist model of social organization and decision-making? Weren't the Frankfurt School theorists-- both generation I and II-- dismissive of the results of public discussion under "liberalism," treating political discussion and contention as a machine producing false consciousness? Didn't the farther Left, especially after Lenin, believe in vanguardism and the necessity for moving the forces of history along by violence rather than persuasion-- did they not look, in the phrase of Fidel Castro, for absolution by history rather than the present consent of the governed? Didn't the principles of "no enemies on the Left" and "no criticism of socialist countries" mean that Left-wing scientists shut their mouths about Lysenko and the liquidation of his scientific enemies by Stalin? Didn't the Left prefer a view of science as technology (Boris Hessen and Bernal) or description (Karl Pearson) or as "pragmatic" (Habermas) rather than one in which theory and debate played a large role, and wasn't the Lysenko affair itself a product of the idea that genetics was so much idealist theory while "vernalization" was a working technology? Wasn't part of the attraction of science-- and for that matter planning-- for the Left that science promised to provide a substitute for public discussion and "political" decision-making? Wasn't "planning", to which the people would assent but not control, the big idea that united science and the Left at least until the mid-1950s?

The answers to all these questions is yes. So part of what makes reading Fuller's argument so intriguing is watching him pick his way through this minefield, trying to emphasize the claims that allow for a conception of science that fits with the present instincts of the Left. One can see where he wants to go: he has the idea that both science and liberal democracy would be better if the autonomy of science was cancelled and science was both criticized and governed

democratically, and if science itself was more of an open society with freer criticism and debate. Fuller is a participatory democrat with a libertarian streak, and not an Old Leftist. So he ignores the traditional hostility of the Left to liberal democracy, and dismisses the contemporary manifestations of this hostility (such as cultural studies, which treats citizens as only enjoying sham freedoms and as captives of propaganda concealed as entertainment or education). And he tries to construct a counter-history that supports the idea by finding an historical missed opportunity. He finds material for this reconstruction, strangely enough, in commonalities between Theodor Adorno and Popper, who usually have been regarded as arch-enemies hurling accusations at one another-- Popper treating Adorno as a purveyor of holistic gibberish arrived at through a bogus supra-scientific “dialectical” method that was all too congenial to totalitarianism and Popper, as a rigid excluder, through his restriction of science to the falsifiable, of the only kind of critical reason that could overcome the enslaving false consciousness of “bourgeois” liberal democracy”.

Popper versus Adorno

So what are the commonalities? Fuller says that they were both against superstition, which seems pretty thin, and argues that the text version of the *Positivismusstreit* (Adorno et al ([1969]1976), a debate held in 1961, which pitted Popper as the “Positivist” (a title he of course rejected) against Adorno the dialectician, actually pointed to a great deal of common ground. So what was it? They both believed in the dialectical process and criticism, and, as Fuller construes them, both were hostile to academic specialization and disciplinary boundaries and to the underlaborer conception of philosophy. He adds to this the historical claim that Popper was connected to a

Socialist pedagogical program in the 1920s and implies that some of the Leftism of Popper's youth carried over into his later thinking. He also tries to save Adorno from his mechanical appropriation by cultural studies, which Fuller dismisses as a misunderstanding, though he concedes that Adorno in later life fell into obscurantism and political ineffectiveness.

Interesting, but not really credible. Begin with Adorno. Cultural studies may seem like a parody of Adorno, but he is difficult to parody. This is the same Adorno who ranted "For centuries society has been preparing for Victor Mature and Mickey Rooney. By destroying they come to fulfill" (Horkheimer and Adorno [1944] 2002: 156). Victor Mature (an Arnold Schwarzenegger of the 1940s) and Mickey Rooney (at the time of writing an old child star starring in Allied propaganda films like "A Yank at Eton"). If one recalls Hegel's comment on Napoleon, upon seeing him riding through the streets of Jena, that he was the *Zeitgeist* on horseback, one can only reflect that world historical significance came cheap for Adorno. Nevertheless there is a serious issue here which Fuller's treatment hangs on. This kind of over the top denunciation was characteristic of the gestural rhetoric of the Weimar era and was both the sign and in part the cause of the failure of its attempt at a parliamentary politics of discussion. Adorno kept this stuff up long after World War II, and there is plenty more of the same in the early Habermas, including the volume on the *Positivismusstreit*.

The contrast between them could be put in a somewhat cartoonish way as follows. Adorno and Popper believed in dialogue and reason but in conflicting senses. Popper understood science to be a forum for discussions with reasonably well defined boundaries. The statements that could be advanced as conjectures in this forum were admissible only if there could be falsifications of them. When Popper talked about democracy in *The Open Society and its*

Enemies (1950) his definition is a definition of liberal democracy is parallel: government by discussion which is itself bounded, though not quite as sharply or in the same way as discussion in science is bounded. What undermines and amounts to nonparticipation in this discussion, which is the “open” part of the open society, are forms of so-called “reason” that are designed to shut the process of discussion down by trumping it. Among the examples Popper gives in *The Open Society* is the kind of sociology of knowledge practiced by Karl Mannheim, which, as Popper tells it, replied to every assertion Mannheim rejected with an analysis showing it to be different in character, namely an expression of interest, rather than something to be rationally debated and which made these plans on the basis of the rejection of limited ordinary rational methods instead of some sort of novel method that allowed the user to apprehend wholes.

This is a pretty good description of Adorno’s approach as well. Adorno had no love for the limited discussions of either science or liberal democracy, and in the *Positivismusstreit* Habermas took every chance he could to denounce them as arbitrary, and therefore decisionistic, or authoritarian, and the Popperians threw back the following: “Popper develops his view in a confrontation with a ‘comprehensive rationalism’ which is uncritical in so far as it-- analogous to the paradox of the liar-- implies its own transcendence. Since, for logical reasons, a self-grounding of rationalism is impossible, Popper calls the assumption of a rationalist attitude a decision which, because it logically lies *prior* to the application of rational arguments, can be termed irrational” (Albert ([1969]1976) “The Myth of Total Reason”: 192). Adorno was committed to the idea that there was some kind of overarching knowledge, and the use of this knowledge to overcome his bourgeois enemies in thought is what “dialectics” meant to him, that is sublation rather than some sort of sharing of rational considerations that involves an

assumption of equality with respect to rationality between the speakers. Adorno imagined himself to be in possession of the secrets of history and conceded no such equality. Bourgeois reason is exposed as fraudulent, dishonest, historically doomed, and the only appropriate response to it is to analyze it in terms of “reason” as vouchsafed to Adorno, and to treat the sincere adherents to it as victims of false-consciousness. It is this tradition that Habermas gradually backs away from and which now looks to us like a form of fanatical obscurantism, as Fuller himself notes, but attributes only to the later Adorno.

Weimar Origins

A little historical context is relevant here. The whole debate over holistic versus specialized knowledge that led to the so called crisis of the sciences in the Weimar republic was started by Max Weber’s speech on the vocation of science in which he argued that science or in this case *Wissenschaft* had no business providing holistic, practice-informing, interpretations of the world, because science had developed, necessarily, in such a way that the only real achievements were those of specialists. This was at the time a shocking and disappointing thesis-- to “Mandarins” and students alike, *pace* Ringer-- which occasioned responses and fervent contemplation from a great many people including Horkheimer, a very late latecomer to this debate as he was a student at the time the talk was given, who jumped in on the side of holistic reason in his inaugural lecture, giving a Marxian twist to what was in origin a thesis of the Romantic Right.

Whether Weber’s claims were right or wrong, this much seems to be the case. There is a kind of “liberal” conception both of science and democracy which is procedural in the sense that it identifies both liberal democracy and science with bounded discussion governed under rules of

a game that limited and excluded or bracketed certain kinds of values, claims, and philosophical theses. One could construct a nice history of the various formulations of the critics, left and right, of this conception, but the fact that thinkers like August Comte were motivated by anxiety about the “anarchy of opinions” characteristic of liberal democracy and their conviction that science was authoritative and would therefore put this anarchy to rest captures the fundamental conflict: either one trusts in the anarchy of opinions and structures it in such a way that it produces results, either in politics or science, results that are to paraphrase Churchill, better than the alternatives but not absolutely authoritative, or one goes for genuine authority whether it is in the form of Adorno’s dialectical reason or Newman’s theology. If we recognize the limitations of political discussion and liberal democracies and the limitations of science, and recognize that both spheres work to the extent that they do because they limit discussion in specific ways, one can still be a critic and concerned with the revision of the conventions, but to claim the authority of reason with a capital “R” in the context of either science or liberal democracy is to reach outside of the domain, to put oneself in a position beyond the limited kind of persuasion possible within the conventions of liberal politics and of science.

This is far from being an academic issue, and here Fuller is puzzling. The rise of Hitler is often (and better) seen as the consequence rather than the cause of the collapse of the Weimar republic, and since 1933 a major historical theme has been the assignment of responsibility for this collapse. The Left was divided between the KPD (the Communists), the SPD (the Socialists and party of Marx itself) and the SPD was always watching its Left flank. The SPD served in coalitions with the Liberals, a small fractional group, but was uncomfortable in power and preferred opposition. Taking political responsibility was alien to the SPD, which was

ideologically rigid and narrow in its interests. Many historians have pointed the finger for the failure of the Weimar Republic at it, though there were many other culprits, because the SPD, as the larger party, seemed to have the capacity to do something, but lacked the will and flexibility to do it. The collapse of the last cabinet based on a parliamentary majority in 1930 was precipitated by the refusal of the SPD, pressed by its union constituents, to agree to a small alteration of unemployment benefits. Rule by decree followed immediately, and the Nazi electoral triumph, a gain of 95 Reichstag seats, occurred at the next election. Fuller strangely portrays this as a period of creative political ferment between liberals and Socialists. It is true, as Fuller suggests, that on the Left there was a certain amount of creativity— Paul Tillich's *Kairos Kreis* comes to mind. But the creativity was not spent on saving Liberal Democracy. Much of it was spent appropriating the critiques of Liberalism invented by the Right, especially its communitarianism. Tillich himself was an adjunct professor at the proto-Nazi Hans Freyer's Sociology institute in the twenties (Mueller, 1987, 154-5), and Freyer was respectfully reviewed by the Socialist press. None of this creativity was spent where it was needed most, namely on promoting the kind of political civility that made democratic politics possible, on curing the Left of its moralism and preference for critique over accepting political responsibility.

The postwar amalgam of “bourgeois” notions of political freedom and ideas of rights with social welfarism was very far in the future, especially for Germany. When SPD Chancellor Helmut Schmidt, 50 years after the Weimar republic, embraced Weber's ethics of responsibility, it was front page news, precisely for this reason. Not Responsibility but critique was the SPD legacy, and it was not the case as Fuller intimates, that there was some sort of lively dialogue and exchange between the SPD and the progressives or liberals- who were never more than a tiny

fraction of the vote. The progressives wanted, but never could, cut into the SPD vote, and they could never convert the SPD into a responsible partner. Ironically, this is a history that James Bryant Conant, Kuhn's mentor, was very familiar with, and detailed in a sensitive and accurate way in his book on Germany.

A Left View of Science?

The liberal view of science is that science is a problem because the state needs science but the state ought not to be giving preference to opinion. So if science is opinion, and the liberal view is that it is, something needs to be worked out in the form of an exception. Polanyi argued that the wise liberal regime recognizes science as a kindred activity which deserves support and also some degree of freedom from accountability as long as it is genuinely open and competitive. Don Price took the view that Science needed to be treated like the established church, as an estate (1965), which was also similar to Polanyi's view.

Conant took a tougher line than Polanyi. Both had a Liberal approach to science in the following sense— they thought it was best to govern science indirectly, by facilitating scientists' competition. Conant thought it was necessary to have a set of major elite universities with massive resources in order to make this competition meaningful in the present. It is misleading to characterize this reliance on indirect means as Hollinger did as an argument for leaving the community of science alone. Bernal's Left approach to science involved an even broader scope for self-governance: he had in mind science organized like a trade-union, which contributed to the larger "plan" and which avoided competition, replacing it with co-operation among scientists

who, under socialism, would be committed to the collective good without coercion. Conant's view allowed for intervention when competition failed.

Conant's view, far from thinking that scientists ought to be allowed to govern themselves, argued that scientists were particularly prone to hobby horses, to over evaluating the significance of their own little patch of turf, and to group-think. Indeed, if one leads Kuhn through Conant, far from celebrating the conservatism and tendency to close ranks of scientists these are among their principal defects and reasons why they shouldn't be trusted. And Conant didn't trust them, arguing for the creation of devil's advocates and forms of examining technical proposals rather than merely accepting whatever scientific consensus favored one proposal over another. Not for nothing was Conant's loathed by his fellow chemists, who were appalled at his becoming President of the AAAS. Conant also knew a few things about liberal democracy, and it is worth recalling the fact that liberal democracy was imposed on West Germany at Bayonet Point and that Conant himself, both as high commissioner of Germany and the first US ambassador to the Federal Republic, played an important role in fashioning genuine liberal discussion in Germany in the postwar period. As ambassador, he spoke, to Adenauer's fury, to the opposition SPD when Adenauer simply wanted them excluded from any sort of participation. Conant despaired of getting the Germans to understand that liberal democracy required openness to dialogue. And he also understood that the rise of Hitler was a direct consequence of the failure of Weimar democracy to grasp this basic feature of democracy.

I think Fuller is right to see Kuhn and his influence as negative and strange, and that the problem with Kuhn, as Fuller suggests, is that he celebrates what is bad in science, namely its group-think

and lack of openness. I don't believe for a moment that this would be corrected by democratic control of science, nor do I have any idea who would hold power in a functioning "democratic" governance regime in science. A sure bet, however, that it wouldn't be the "people".

References

- Adorno, Theodor et al ([1969]1976) *The Positivist Dispute in German Sociology*, trans. Glyn Adey and David Frisby. New York: Harper and Row.
- Albert, Hans ([1969]1976) "The Myth of Total Reason" in Adorno et al, *The Positivist Dispute in German Sociology*, New York: Harper and Row, pp.163-197.
- Albert, Hans ([1969]1976) "Behind Positivism's Back" in Adorno et al, *The Positivist Dispute in German Sociology*, New York: Harper and Row, pp. 226-257.
- Conant, James B. (1947) *On Understanding Science: An Historical Approach*. New Haven, CT: Yale University Press.
- Conant, James B. (1951) *Science and Common Sense*. New Haven, CT: Yale University Press.
- Conant, James B. (1952) *Modern Science and Modern Man*. New York: Columbia University Press.
- Conant, James Bryant (1958) *Germany and Freedom: A Personal Appraisal*. Cambridge, MA: Harvard University Press.
- Frankfurt Institute of Social Research ([1953-54]1972) *Aspects of Sociology*, trans. John Viertel. Boston: Beacon Press.
- Fuller, Steve (2000) *Thomas Kuhn: A Philosophical History for Our Times*. Chicago: The University of Chicago Press.

Geuss, Raymond (1981) *The Idea of Critical Theory: Habermas and the Frankfurt School*.

Cambridge: Cambridge University Press.

Habermas, Jürgen ([1969]1976) “Analytical Theory of Science and Dialectics” in Adorno et al, *The Positivist Dispute in German Sociology*, New York: Harper and Row, pp.131-162.

Habermas, Jürgen ([1969]1976) “A Positivistically Bisected Rationalism” in Adorno et al, *The Positivist Dispute in German Sociology*, New York: Harper and Row, pp.198-225.

Horkheimer, Max and Theodor W. Adorno ([1944]2002) *Dialectic of Enlightenment*, trans. John Cumming. New York: The Continuum Publishing Corp.

Kirchheimer, Otto and Franz Neumann (1987) *Social Democracy and the Rule of Law*, ed. Keith Tribe, trans. Leena Tanner and Keith Tribe. London: Allen & Unwin.

Lakatos, Imre and Alan Musgrave (1970) *Criticism and the Growth of Knowledge*. Cambridge: Cambridge University Press.

Muller, Jerry Z. (1987) *The Other God that Failed: Hans Freyer and the Deradicalization of German Conservatism*. Princeton, NJ: Princeton University Press.

Polanyi, Michael ([1958]1962) *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago: The University of Chicago Press.

Popper, Karl ([1934]1968) *The Logic of Scientific Discovery*. New York: Harper & Row.

Popper, Karl (1950) *The Open Society and Its Enemies*. Princeton, NJ: Princeton University Press.

Popper, Karl ([1963]1965) *Conjectures and Refutations: The Growth of Scientific Knowledge*. New York: Harper & Row.

Porter, Theodore M. (2004) *Karl Pearson: The Scientific Life in a Statistical Age*. Princeton, NJ: Princeton University Press.

Price, Don K. (1965) *The Scientific Estate*. Oxford: Oxford University Press.