

**Steve Fuller.**

**Kuhn vs. Popper: The Struggle for the Soul of Science.**

Columbia University Press, 2005, 160 pp.

\$US 24.50 hardcover (0-231-13428-2)

The American philosopher of science Thomas Kuhn (1922-96) pioneered an open, radical and democratic approach to science with the notions of “scientific revolutions” and “paradigms” outlined in his early 1960s classic *The Structure of Scientific Revolutions*. An intellectual rebel and critic of the scientific establishment of his time, Kuhn was a precursor to the contemporary post-modern, critical theory and social studies of science scholarship (in both sociology and in the broader social sciences and the humanities) that exposes the authoritarian abuses of scientific authority perpetuated by elites. In contrast, the British philosopher of science and public intellectual Karl Popper (1902-94) was a conservative and authoritarian proponent of an out-dated positivism that justified scientific knowledge as vastly superior to lay knowledge thus providing uncritical ideological support for the scientific establishment and their allies among the corporate and political rulers of modern societies. Any serious examination of the Kuhn-Popper debate that occurred in London, England in 1965 allows us to be almost “present at the creation” of the emergence of Kuhn’s vision of a democratic science that undermines the simplistic view of scientific knowledge as “factual” defended by the positivistic Poppers of the world.

Or so one might think, until one reads Steve Fuller’s provocative and brilliant (if somewhat idiosyncratic) book on Kuhn and Popper — a historically informed polemic that raises serious questions about the “hero” versus “villain” narrative that is likely to structure the memory of contemporary sociologists regarding these two famous theorists of science. My own experience teaching Canadian graduate students over the past ten years suggests that Kuhn is indeed a hero in our discipline, as young scholars often invokes the authority of Kuhn’s notion of “paradigms” as leverage to critique traditional “scientific sociology” as they argue for interpretive sociologies that are said to be more open, radical and democratic. And while few young sociologists in their twenties or early thirties will know much about Karl Popper, positivism is surely seen by a very large number of our PhD students as an unqualified disaster and Popper, if remembered at all, would certainly be seen as being guilty of this venal sin. Fuller’s account of the careers of each of these thinkers and his rendering of the famous debate between them raises profound questions about the conventional wisdom in sociology regarding Kuhn and positivism. It is a book worth serious consideration despite some of its obvious flaws. The sociologically interesting question that I am left with, after reading Fuller’s book, is how could the mythology of a democratic Kuhn versus an authoritarian Popper have been sustained for so long in our discipline, when there is enormous evidence that these adjectives could far more plausibly be reversed?

Fuller begins his book with a straight-forward narrative of the Kuhn-Popper debate that took place in 1965 at Bedford College, University of London, organized by Imre Lakatos, a prominent philosopher of science who was then a young lecturer of logic. Popper was 63 years old at the time, and as a famous philosopher and full professor he was initially unwilling to share the stage with the upstart Kuhn, then a 42 years old scholar who had been turned down for tenure at Harvard earlier in his career. The actual details of the debate and its staging are far more complex than the way they are presented in textbook discussions, but Fuller makes a compelling case that the event played an important role in the creation of Popper’s reputation as a “grumpy autocrat” wedded to positivism while helping frame Kuhn as a “scientific radical” willing to take on all comers in the positivist

establishment. The truth, Fuller tells us, could plausibly be read as the exact reverse, at least with regards to the issue of science, democracy and radicalism. From Fuller's perspective, "Popper was a democrat concerned with science as a form of dynamic inquiry and Kuhn an elitist focused on science as a stabilizing social practice" (p. 68).

In contrast to his radical image Kuhn was, in fact, a deeply conservative person whose career was indebted to the sponsorship of James Bryant Conant (1893-1978), a twenty year president of Harvard University and chief scientific administrator of the American effort to build the atomic bomb. Fuller makes a compelling case that Kuhn should be seen as the "the official philosopher of science of the emerging military-industrial complex." His links with the elite were deep, he almost never took controversial or outspoken positions that would potentially alienate the American political establishment, he was passionate defender of specialized scientific discourse closed off from public debate, he seldom addressed the public outside his specialization in the history of science, he had little interest in democratic function of the modern university and his ideas provided the perfect justification for a highly "autonomous" and well-funded "big science" that could (and did) serve the interests of the Cold War era United States.

The mythology surrounding Karl Popper is equally distorting of reality, although in contrast to Kuhn, who is an intellectual hero for our age, Popper suffers the fate of a partly undeserved "difficult reputation," as sociologist Gary Alan Fine would put it. In the contemporary intellectual context, Popper is best known for his concept of "falsifiability." A knowledge claim is scientific, for Popper, not when it is true or proven, but when it is constantly subjected to systematic attempts to falsify it. The author of numerous influential works of philosophy of science as well as a number of provocative polemics against Marxism, psychoanalysis and various forms of totalitarianism (both fascist and communist), Popper was both an accomplished scholar and a public intellectual who took his often controversial views on politics and science to the public in scholarly but very readable political interventions. While he became a bit of a crank in his old age (when he was constantly complaining about how little attention and acclaim he was receiving), Fuller makes a compelling case that the logic of Popper's position supports the democratization of scientific debate — not elitism; a clear and straight-forward writing style and a sophisticated and open minded methodology of scientific discovery — not a simple minded positivism; broad and democratic science education in schools and universities and an articulate defense of the role of science as a progressive social forces linked to human needs — not the interests of state, corporation or disciplinary/academic/scientific guilds. Fuller's evidence and argument totally discredits the conventional wisdom about what the debate between Kuhn and Popper was about.

In addition, Fuller is able to link his account of this specific incident in 20th century intellectual history to a range of larger debates and concerns in contemporary social science, humanities, history and science studies. One of the most important contributions of the book is as a case study on how academic reputations are socially constructed, often in ways inconsistent with the actual ideas, events and personalities at issue. If Popper is not a "forgotten intellectual" he is certainly a misunderstood one, and Kuhn is one of the best examples one can imagine of an intellectual hero who inspires courage and commitment among the young without having much of a heart himself. The literature that looks at how scholars become dominant intellectual forces, how various schools of thought or disciplines fail or are successfully institutionalized and how collective memories among scholars and intellectuals are shaped would benefit greatly from this case study on Kuhn and Popper. The conventional intellectual history of contemporary science studies looks very different when this account of Kuhn and Popper is taken into account.

More broadly, Fuller's method of contextualizing each thinker by looking at their lives, historical context, intellectual influences, career trajectories and alliances as well as their ideas, provides a very useful model for thinking about other classic philosophical, social science and intellectual debates. For example, Fuller spends a couple of chapters in the book on the equally famous Popper/Adorno debate on positivism in the 1960s in Germany, another example where distorted ideas about what positivism actually means were disseminated widely, helping create Adorno's and especially Habermas's reputations as major social theorists on the basis of a critique of a straw-man Popper. Further research on the reception of the concept of positivism and the social functions of "anti-positivism" among contemporary scholars would add much to debates on the state of the humanities and social sciences, disciplines where, it seems, the vague and elastic term positivism is thrown around in ways that confuse more than illuminate.

Fuller has a very good answer to traditionalist critics of his approach who would question his emphasis on intellectual history and biography as opposed to pure textual readings of the writings of "great thinkers" like Kuhn. Fuller suggests that "Even if ideas and arguments should be evaluated independently of their origins, we must first learn about these origins, in order to ensure that our evaluation is indeed independent of them." Intellectual life today is full of claims about the "brilliant," "ground breaking," "innovative" and "courageous" contributions of various intellectual heroes like Marx, Weber, Foucault, Habermas and Bourdieu; Fuller is right to raise critical questions about how is it exactly that we know these thinkers are as original as so many of us claim. The Kuhn/Popper debate gives us one prominent example of how the retrospective reputations of thinkers can be created by contemporary institutional interests and what sociologists would call "reputational entrepreneurs." Fuller follows up the Kuhn/Popper example at the center of his book with an extended discussion of American pragmatist philosopher Richard Rorty's claims for the brilliance of Heidegger — the most original philosopher of the 20th century, according to Rorty. Heidegger, of course, was a committed Nazi as well as an influential philosopher, and Fuller is perceptive in challenging the liberal-democratic Rorty's attempts to close discussion on the meaning of Heidegger's politics. As Fuller points out, Rorty takes the claim that "the origins of an idea need not imply anything about its validity" to mean that "The origins of an idea never imply anything about its validity" (p. 184). From Fuller's perspective, Rorty is guilty of what he calls a "second-order colonialism" that involves our "mental colonization by other people's ideas (p. 188) when he argues, as Fuller puts it, that *Being and Time* is so profound that this "override(s) the despicability of its author and the consequences to which he contributed" (p. 189). Using the "falsifiability" procedures Fuller picked up from Popper (who Rorty says little about, outside of one long misleading critique in a passage in one of his essays), he suggests that "In the case of Heidegger, then, we should ask if there were other philosophers of roughly the same vintage who said roughly the same things, but were not Nazis" (p. 190). Intellectual history and the sociology of ideas would be transformed if we were trained to treat the claims of "genius" we are subjected to all the time (especially from scholars in the humanities, since these are fields with less consensus on what is good work than in either the social or natural sciences, a situation that leads to promotional rhetoric) as hypotheses to be tested not anointments to be confirmed and respected uncritically. Fuller offers the examples of Karl Jaspers, Paul Tillich and Jean-Paul Sartre as plausible non-Nazi alternatives to Heidegger within the broad theoretical camp we would now call existentialism. Fuller furthermore suggests that research on these kinds of issues would make for a valuable and ethically responsible project within the contemporary humanities. Popperian skepticism of claims to authority within closed and self-interested networks of academic experts would call for no less.

There are times when Fuller goes too far in some of his own claims, and his polemical style and engaging, even funny writing style sometimes causes him to overreach, exaggerate and miss

nuances. This reader was convinced that Kuhn's academic reputation has been artificially inflated out of proportion to his intellectual value and that there are profoundly important ethical issues at stake in the Kuhn/Popper debate. At the same time, I wonder if Fuller is not going too far in suggesting that the liberal elitist Kuhn is "the American Heidegger" (p. 193). Clearly, it is the case that far too many philosophers of science today are "underlabourers" for the scientific establishment who justify the power and authority of modern big science as opposed to holding up its practice to the highest possible ethical and intellectual standards exemplified by philosophy at its best. Kuhn's work must bear some responsibility for this state of affairs but the Heidegger analogy seems overstated. And one gets the sense reading Fuller that he has been working on Kuhn for a long time and thus sometimes overreacts to the inflation of his reputation with an excessive zeal to bring him down. There surely are ways to integrate Kuhn's real contributions, without all the hype.

In addition, while Fuller is right, I think, to suggest that the economic sponsorship of the radical Frankfurt School scholars by German industrialists in the 1920s is an important part of the context we need to know as we evaluate their ideas, I would not go so far as dismissing their admittedly flawed writings as "propaganda" as Fuller does (p. 144). Nor would I so quickly and speculatively label the motives of the critical theorist's elite patrons as "guilt" (p. 144). And I would not go quite so far in defending Popper, leaving more room for different approaches to social science in our disciplines than Popper would allow for and avoiding some of the political polemics Popper was prone to. There is more in Marxism and psychoanalysis worth salvaging, for example, than Popper allows.

There are other times, however, where Fuller does not go far enough intellectually or methodologically. In the conclusion of the book, for example, Fuller moves from his discussion of Popper versus Kuhn to summarize his views on the implications of Kuhn's work for us today, a topic he has written on earlier in a well regarded if controversial full-length intellectual biography of the author of *The Structure of Scientific Revolutions*. For Fuller, Kuhn's lack of political and ethical principles compares unfavourably to the examples of French philosopher Michel Foucault, American linguist and public intellectual Noam Chomsky and the dissident American decision theorist and Vietnam war era government official Daniel Ellsberg. In addition to making scholarly contributions, each of these three intellectuals stood up for their views and took responsibility for them in public. Kuhn, in contrast, failed this test miserably when he retreated into academic prestige and public silence as his work gained enormous influence.

The general point is well taken, but I would go further in challenging the case of Foucault as a useful counter-example. We now know from Janet Afary and Kevin Anderson's book *Foucault and the Iranian Revolution* (University of Chicago Press, 2005) that Foucault was a highly vocal and intellectually extreme supporter of the Islamicist wing of the Iranian revolution in the late 1970s. Foucault, furthermore, retreated from discussions of this incident after the real world consequences of his views became evident in the state murdering of gays and lesbians and the suppression of basic human rights under the totalitarian regime that had replaced the brutal American backed Shah. To be fair to Fuller, of course, this work on Foucault had not been published when he wrote *Kuhn versus Popper* (2004). I make the point because hero worship of Foucault is an even greater problem in sociology than is the uncritical invocation of Kuhn. In the contemporary academic context, there are scores of scholars who have created their intellectual reputations by promoting Foucault's insights into the relationship between power and knowledge, but who show no interest in trying to find non-extremist theorists and theories that could help us continue innovative and critical theoretical work without some of the political liabilities that are, Afary and Anderson argue, deeply imbedded in Foucault's core categories and world-view.

In methodological terms, exploration of the kind of comparisons that Fuller uses so creatively could be done, a sociologist would surely argue, with more concern with systematic sampling beyond simply pulling out examples that make his case. Fuller could hardly disagree, given the eloquent brief he has constructed for the value of Popper's approach to social science.

Although Fuller teaches in a sociology department, I view him as an excellent conversation starter for our discipline, not as an example of what we should turn mainstream sociology into. Fuller is a brilliant writer and public intellectual, and his commitment to linking philosophy and the history of ideas to contemporary social science is commendable and invaluable. And the approach he calls "social epistemology" is surely worth serious consideration. Sociology graduate students should read Fuller for inspiration and ideas, but I would not recommend following his example. The normal science of mainstream sociology should be critiqued, not simply defended, to be sure, but there is value in both sides of the Kuhn versus Popper debate. There is much more to be said about the political implication of Fuller's approach to democratizing science — I am fascinated myself with Fuller's approach, but would want to see more of what he writes and would reserve the right to think more about what this all might mean in practice before joining any "social epistemology" camp. And there is much work to be done on the specifics of how Fuller's type of analysis could be done within our existing traditions of empirically oriented sociology of ideas. Discussion of these broader issues will be left for another time, especially as Fuller has written a number of full length books on a variety of topics related to the contemporary science wars, science policy, and the like. Read them, and be prepared for polemics as well as insight. What is clear, however, is that after reading Fuller's account of the Kuhn/Popper debate this instructor, for one, will be far more assertive in future classrooms in asking graduate students to explain more about what exactly they mean when they invoke Kuhn as a radical and important thinker whose contributions should be taken for granted while dismissing positivism and thinkers like Popper with perhaps just a touch too much youthful self assurance.

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November 2006

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