Fuller's roter Faden

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The Germans have a notion of "research intention," by which they mean the underlying aim of an author's work as revealed over its whole trajectory. Frances Remedios and Val Dusek have provided, if not an account itself, the material for an account of Steve Fuller's research intention, or as they put it the "thread" that runs through his work.

These "intentions" are not something that is apparent to the authors themselves, which is part of the point: at the start of their intellectual journey they are working out a path which leads they know not where, but which can be seen as a path with an identifiable beginning and end retrospectively. We are now at a point where we can say something about this path in the case of Fuller. We can also see the ways in which various Leitmotifs, corollaries, and persistent themes fit with the basic research intention, and see why Fuller pursued different topics at different times.

A Continuity of Many Changes

The ur-source for Fuller's thought is his first book, *Social Epistemology*. On the surface, this book seems alien to the later work, so much so that one can think of Fuller as having a turn. But seen in terms of an underlying research intention, and indeed in Fuller's own self-explications included in this text, this is not the case: the later work is a natural development, almost an entailment, of the earlier work, properly understood.

The core of the earlier work was the idea of constructing a genuine epistemology, in the sense of a kind of normative account of scientific knowledge, out of "social" considerations and especially social constructivism, which at the time was considered to be either descriptive or anti-epistemological, or both. For Fuller, this goal meant that the normative content would at least include, or be dominated by, the "social" part of epistemology, considerations of the norms of a community, norms which could be changed, which is to say made into a matter of "policy."

This leap to community policies leads directly to a set of considerations that are corollaries to Fuller's long-term project. We need an account of what the "policy" options are, and a way to choose between them. Fuller was trained at a time when there was a lingering controversy over this topic: the conflict between Kuhn and the Popperians. Kuhn represented a kind of consensus driven authoritarianism. For him it was right and necessary for science to be organized around ungroundable premises that enabled science to be turned into puzzle-solving, rather than insoluble disputes over fundamentals. These occurred, and produced new ungroundable consensual premises, at the rare moments of scientific revolutions.

Progress was possible through these revolutions, but our normal notions of progress were suspended during the revolutions and applied only to the normal puzzle-solving phase of science. Popperianism, on the contrary, ascribed progress to a process of conjecture and refutation in which ever broader theories developed to account for the failures of previous conjectures, in an unending process.

Kuhnianism, in the lens of Fuller's project in *Social Epistemology*, was itself a kind of normative epistemology, which said "don't dispute fundamentals until the sad day comes when one must." Fuller's instincts were always with Popper on this point: authoritarian consensus has no place in science for either of them. But Fuller provided a *tertium quid*, which had the effect of upending the whole conflict. He took over the idea of the social construction of reality and gave it a normative and collective or policy interpretation. We make knowledge. There is no knowledge that we do not create.

The creation is a "social" activity, as the social constructivists claimed. But this social itself needed to be governed by a sense of responsibility for these acts of creation, and because they were social, this meant by a "policy." What this policy should be was not clear: no one had connected the notion of construction to the notion of responsibility in this way. But it was a clear implication of the idea of knowledge as a product of making. Making implies a responsibility for the consequences of making.

Dangers of Acknowledging Our Making

This was a step that few people were willing to take. Traditional epistemology was passive. Theory choice was choice between the theories that were presented to the passive chooser. The choices could be made on purely epistemic grounds. There was no consideration of responsibility, because the choices were an end point, a matter of scientific aesthetics, with no further consequences. Fuller, as Remedios and Dusek point out, rejects this passivity, a rejection that grows directly out of his appropriation of constructivism.

From a "making" or active epistemic perspective, Kuhnianism is an abdication of responsibility, and a policy of passivity. But Fuller also sees that overcoming the passivity Kuhn describes as the normal state of science, requires an alternative policy, which enables the knowledge that is in fact "made" but which is presented as given, to be challenged. This is a condition of acknowledging responsibility for what is made.

There is, however, an oddity in talking about responsibility in relation to collective knowledge producing, which arises because we don't know in advance where the project of knowledge production will lead. I think of this on analogy to the debate between Malthus and Marx. If one accepts the static assumptions of Malthus, his predictions are valid: Marx made the productivist argument that with every newborn mouth came two hands. He would have been better to argue that with every mouth came a knowledge making brain, because improvements in food production technology enabled the support of much larger populations, more technology, and so forth—something Malthus did not consider and indeed could not have. That knowledge was in the future.

Fuller's alternative grasps this point: utilitarian considerations from present static assumptions can't provide a basis for thinking about responsibility or policy. We need to let knowledge production proceed regardless of what we think are the consequences, which is necessarily thinking based on static assumptions about knowledge itself. Put differently, we

need to value knowledge in itself, because our future is itself made through the making of knowledge.

"Making" or "constructing" is more than a cute metaphor. Fuller shows that there is a tradition in science itself of thinking about design, both in the sense of making new things as a form of discovery, and in the sense of reverse engineering that which exists in order to see how it works. This leads him to the controversial waters of intelligent design, in which the world itself is understood as, at least potentially, the product of design. It also takes us to some metaphysics about humans, human agency, and the social character of human agency.

One can separate some of these considerations from Fuller's larger project, but they are natural concomitants, and they resolve some basic issues with the original project. The project of constructivism requires a philosophical anthropology. Fuller provides this with an account of the special character of human agency: as knowledge maker humans are God-like or participating in the mind of God. If there is a God, a super-agent, it will also be a maker and knowledge maker, not in the passive but in the active sense. In participating in the mind of God, we participate in this making.

"Shall We Not Ourselves Have to Become Gods?"

This picture has further implications: if we are already God-like in this respect, we can remake ourselves in God-like ways. To renounce these powers is as much of a choice as using them. But it is difficult for the renouncers to draw a line on what to renounce. Just transhumanism? Or race-related research? Or what else? Fuller rejects renunciation of the pursuit of knowledge and the pursuit of making the world. The issue is the same as the issue between Marx and Malthus. The renouncers base their renunciation on static models. They estimate risks on the basis of what is and what is known now. But these are both things that we can change. This is why Fuller proposes a "pro-actionary" rather than a precautionary stance and supports underwriting risk-taking in the pursuit of scientific advance.

There is, however, a problem with the "social" and policy aspect of scientific advance. On the one hand, science benefits humankind. On the other, it is an elite, even a form of Gnosticism. Fuller's democratic impulse resists this. But his desire for the full use of human power implies a special role for scientists in remaking humanity and making the decisions that go into this project. This takes us right back to the original impulse for social epistemology: the creation of policy for the creation of knowledge.

This project is inevitably confronted with the Malthus problem: we have to make decisions about the future now, on the basis of static assumptions we have no real alternative to. At best we can hint at future possibilities which will be revealed by future science, and hope that they will work out. As Remedios and Dusek note, Fuller is consistently on the side of expanding human knowledge and power, for risk-taking, and is optimistic about the world that would be created through these powers. He is also highly sensitive to the problem of static assumptions: our utilities will not be the utilities of the creatures of the future we create through science.

What Fuller has done is to create a full-fledged alternative to the conventional wisdom about the science society relation and the present way of handling risk. The standard view is represented by Philip Kitcher: it wishes to guide knowledge in ways that reflect the values we should have, which includes the suppression of certain kinds of knowledge by scientists acting paternalistically on behalf of society.

This is a rigidly Malthusian way of thinking: the values (in this case a particular kind of egalitarianism that doesn't include epistemic equality with scientists) are fixed, the scientists ideas of the negative consequences of something like research on "racial" differences are taken to be valid, and policy should be made in accordance with the same suppression of knowledge. Risk aversion, especially in response to certain values, becomes the guiding "policy" of science.

Fuller's alternative preserves some basic intuitions: that science advances by risk taking, and by sometimes failing, in the manner of Popper's conjectures and refutations. This requires the management of science, but management that ensures openness in science, supports innovation, and now and then supports concerted efforts to challenge consensuses. It also requires us to bracket our static assumptions about values, limits, risks, and so forth, not so much to ignore these things but to relativize them to the present, so that we can leave open the future. The conventional view trades heavily on the problem of values, and the potential conflicts between epistemic values and other kinds of values. Fuller sees this as a problem of thinking in terms of the present: in the long run these conflicts vanish.

This end point explains some of the apparent oddities of Fuller's enthusiasms and dislikes. He prefers the Logical Positivists to the model-oriented philosophy of science of the present: laws are genuinely universal; models are built by assuming present knowledge and share the problems with Malthus. He is skeptical about science done to support policy, for the same reason. And he is skeptical about ecologism as well, which is deeply committed to acting on static assumptions.

The Rewards of the Test

Fuller's work stands the test of reflexivity: he is as committed to challenging consensuses and taking risks as he exhorts others to be. And for the most part, it works: it is an old Popperian point that only through comparison with strong alternatives that a theory can be tested; otherwise it will simply pile up inductive support, blind to what it is failing to account for. But as Fuller would note, there is another issue of reflexivity here, and it comes at the level of the organization of knowledge. To have conjectures and refutations one must have partners who respond. In the consensus driven world of professional philosophy today, this does not happen. And that is a tragedy. It also makes Fuller's point: that the community of inquirers needs to be managed.

It is also a tragedy that there are not more Fullers. Constructing a comprehensive response to major issues and carrying it through many topics and many related issues, as people like John Dewey once did, is an arduous task, but a rewarding one. It is a mark of how much the

"professionalization" of philosophy has done to alter the way philosophers think and write. This is a topic that is too large for a book review, but it is one that deserves serious reflection. Fuller raises the question by looking at science as a public good and asking how a university should be organized to maximize its value. Perhaps this makes sense for science, given that science is a money loser for universities, but at the same time its main claim on the public purse. For philosophy, we need to ask different questions. Perhaps the much talked about crisis of the humanities will bring about such a conversation. If it does, it is thinking like Fuller's that will spark the discussion.

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References

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