

## BOOK REVIEWS

**Thomas Kuhn – A Philosophical History for our Times.** Steve Fuller. The University of Chicago Press, Chicago. 1999, 472 pp.

Most of the writings on science and its development fall into three categories. First, as a kind of manual or textbook, writing on science has sought to detail the laws and discoveries of science under various disciplines like physics, chemistry, biology, astronomy, etc. Along with them go the biographies of the scientists and the struggles they had to put up to achieve their goals. The second kind of writing is in the nature of surveys of the disciplines, not on the basis of the individual pursuits and achievements, but on the basis of theoretical orientations leading to a comprehensive understanding of the topology of the subject. The third kind of writing has been in the nature of historiography of science relating to the topological upheaval marking the shift from one paradigm to another and consequent seminal changes in the vision that science afforded of the knowledge of 'reality'. But not many attempts had been made to relate science to human endeavour as a whole, or in other words, to relate it to the comprehensiveness of human activity. This kind of writing in science required an understanding of the philosophy of science.

With the publication of Popper's *The Open Society and its Enemies* and later Kuhn's *The Structure of Scientific Revolutions*, a new field of cognition relating to science in its societal and social placement was opened up. This kind of writing sought to understand science as a phenomenon in the realm of human values. Science was looked upon neither as a dependent nor as an autonomous human activity, but as a symbiotic growth in the context of human life and endeavour.

Time was when science was what a scientist did. It later came to include how he did it. Now on the testimony of Fuller, it would seem to mean the whole range of political and economic forces which induce, support, control or pervert the development of science. In the process, it has come to mean an account of the governance of science.

Even the recognition of science as a distinct intellectual activity was slow to come by. Science had to wait till Bacon

to win its distinctness and scientists had to wait till Whewell to acquire credentials for their profession. The direction for scientific development both in the instrumental and realist lines of research came about only in the wake of Mach and Planck.

Fuller traces the development of science under a liberal dispensation from the middle of the seventeenth century and under a communitarian ethos from the second half of the nineteenth century. He finds the origins of the former in the fora of ancient Greece, where the Sophists tried to prove anything if paid for it and of the latter in the Academy of Plato, which by the simple device of starting the tradition of writing down the ideas bandied about, gave it a corpus of logic and legitimacy. It is this tradition leading to paradigmatic consistency, even if not of logic, that gave rise to a society for the pursuit of knowledge in the place of freelance pursuit of knowledge. Fuller disapproves of liberalism and communitarianism for the excesses to which they lead in the organization of science as a directed activity. He opts for republicanism in scientific development.

Fuller agrees with Karl Popper in that the proper ethos for scientific pursuit is the open society which guarantees one the right even to be wrong. This is not available either in the liberalist pursuit of science which harnesses science to market values or in the communitarian pursuit of science which fetters it to political correctness. The development of science in post-Newtonian period was governed by the needs of the Industrial Revolution and colonialist expansion and in the period around the two world wars by the needs of the political correctness laid down by the prevalent regime. Even in the post-war period, USA censored altogether the experiment to find out the cognitive level of the blacks, because political correctness demanded it.

Science has developed today to an extent where the pursuit of knowledge for its own sake is made impossible by the scale on which the pursuit is undertaken, by the elaborateness of the framework of credential and citations that is now necessary for obtaining the space and means to pursue knowledge, by the ends to which the pursuit is increasingly harnessed, by the peer-pedigree involved to legitimize the pursuit, and by the setting up of paradigms to legitimize the pedigree.

Fuller's republicanism would seem to require the removal of all these shackles to the freedom of thought. The scientist must have the freedom to be wrong, but not be branded wrong on the basis of his pursuit being not duly sanctioned by 'Big Science', by acceptable scholastic credentials or citations, by being related correctly to political, economical or social ends, by the approval of self-styled peers or by conformity to a prescribed paradigm.

Says Fuller 'Nothing in the nature of society demands that it has an institution specially devoted to the pursuit of knowledge as pure inquiry. That such institutions have existed, typically associated with science is a matter of socio-historical fact. There is no guarantee that once science has flourished, it will do so forever, let alone in the same form. These are cardinal principles of my research programme, social epistemology'.

For science to exist and thrive as knowledge through pure inquiry, it may need self-discipline and not self-constraints. Science has to be an individual pursuit in a social or political ambience, but cannot allow itself to be constrained by social and political considerations of either liberalism or communitarianism. 'Thought is free', even if it was Trinculo who said it.

Fuller's writing is bewilderingly sourced. The annotations are not confined to the footnotes. The sentences are also annotative of each other. He also plays with words, catchwords, watchwords and passwords. The result is that development of an argument is frittered away in a burst of exuberant references and brilliance inevitably fades into fleeting sparks.

Fuller's is not merely a refutation of Kuhn's structure, it sets out to be its demolition. And he achieves it with a linguistic implosion that would have been spectacular if it were not insidious. Fuller is out to prove that something good can come out of Nazareth. But then, should he for the sake of Nazareth demolish Babylon, Athens, Rome and Carthage – and the last with paranoiac fury of Scipio Aemilius Africans?

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