

Stephen Shapin, *The Scientific Life: A Moral History of a Late Modern Vocation* (Chicago-London: The University of Chicago Press, 2008), xvii + 468 pp., ISBN 978-0-226-75024-8.

Stephen Shapin, *Never Pure: Historical Studies of Science as if It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority* (Baltimore: Johns Hopkins, 2010), ix + 552 pp., ISBN 978-0-8018-9421-3.

With the publication of the two volumes, *The Scientific Life* and *Never Pure*, Steven Shapin, once more, draws the attention of the community of the historians of science to “the historical sociology of scientific knowledge”. Since the 1980s, the sociology of scientific knowledge (SSK) has been claiming to address a wide variety of topics, as well as “to build upon an appreciation of the contingent circumstances affecting the production and evaluation of scientific accounts”, as Shapin himself maintained in an article issued in 1982. In the past thirty years, the SSK has in fact elaborated on subjects which ranged from the identification of the social position of scientists in the production of knowledge, to an analysis of the function of experts and expertise in various disciplinary domains, to the role played by charisma, trust and virtues in natural philosophical enquiries, as opposed to the idea of science as a disembodied and objective “search for truth”. Both the books can be understood in this trend. The focus of *The Scientific Life* is late nineteenth- twentieth century American industrial science, while *Never Pure* canvasses some of the characteristic patterns of modern European science. More specifically, the former aims at exploring the way science has embodied socio-economic factors, and has been able to structure itself in institutional and organizational forms, nevertheless preserving some of its moral aspects. The latter is made up of a series of papers. These papers are grouped according to specific subjects, and reflect the idea of a structural disunity and heterogeneity of science. The great variety of the topics addressed make both the books of interest to a wide readership, from historians of science, to history of science students who want to get acquainted with the approach of one of the most established scholars in the field.

*The Scientific Life* has a twofold goal. First, it enquires into the way people “matter” in the making of late modern bodies of technical knowledge in 20<sup>th</sup> century America. Second, it explores why the production of scientific knowledge is seen as impersonal, and why the opposing claim, which insists on the relevance of familiarity, trust, and personal virtues, in the making of science, is considered odd and out of context (p. 1).

In the first chapter of the book, Shapin maintains that “late modern configurations” such as the industrial research lab, and the entrepreneurial network, that is, the places where scientific knowledge is produced nowadays, are still characterized by the presence of personal virtues and charisma. Life, in late modern configurations, is inevitably affected by a “normative uncertainty”. This uncertainty is related to the unpredictability which characterizes any kind of scientific enquiry, and which makes us unable to forecast whether or not a certain research project

will be successful. Moreover, the “scientific life” features “an essential tension”. By this quite Kuhnian expression, Shapin refers to the Weberian dichotomy between the idea of science as a purely vocational and contemplative activity, and the image of science as a commercial and industrial enterprise. According to Max Weber, early nineteenth century scientists are morally incompetent subjects, who should be considered neither as moral experts, nor as individuals endowed with special faculties and virtues. Moreover, in Weber’s view, modern science is affected by a subjugation of the personal to the impersonal, of subjectivity to objectivity.

In chapters two and three, Shapin attempts at challenging this view. In doing so, he relies on the idea of a “moral equivalence” of scientists. Shapin borrows this expression from Robert Merton, an American sociologist, who lived in the first half of the 20<sup>th</sup> century. Merton intended to draw attention on the fact that scientists are morally equivalent to any other person, and that, as such, the knowledge they produce is always bound, not only to specific socio-economic contexts and backgrounds, but also to their vices and virtues. However, he also believed that late modern science, especially after the World War II, was increasingly becoming professionalized, therefore transforming scientists in “jobholders” in various sectors of applied research (physics, chemistry and, later on, biomedical sciences). In fact, in the following chapters of the book, Shapin highlights the figure of the “industrial scientist”, taking into account both the perspective of American academic humanists, and the view from the managers of high-tech companies (chapters five and six). From his point of view, humanists believe that scientists working in industrial settings subjugate pure investigations to the economic improvement of the company. On the other hand, in chapter seven, Shapin reports that managers do not see the industrial scientist- otherwise called the Organization Man- as an individual lacking virtues, and derogating objectivity and the pure quest for truth in order to increase the profits of his company. In fact, managers and research directors seem rather to identify the Organization Man in all those individuals who are able to cooperate with others in an industrial setting, and to dedicate themselves to the research projects of the company. Of primary importance in this context is the fact that companies justify their own activities by appealing to public utility; in fact, if the research carried out is deemed to be useful to society, then it is also moral and has to be publicly funded. Shapin himself seems to be convinced that virtues do not emerge only in academic contexts of isolated research, but also in the context of collective research, of that specific research done in organized settings, usually under the direction of a scientific entrepreneur, a figure which is analysed in chapter seven. The scientific entrepreneur is a “qualified scientist, and a risk taker, who is able to transform knowledge in profitable goods and services” (p.210). Significant examples of scientific entrepreneurship are Richard Feynman, James Watson, and, in more recent times, Craig Venter and Kary Mullis. According to Shapin, such towering figures are embodied solutions to the problem of normative uncertainty. In a physical world structurally dominated by uncertainty, scientists have to come face to face with the fact that, no matter how accurate their predictions are, there will always be some unforeseen aspects not accountable for. In such a world, one can be sure only of people, of their decisional abilities, intellectual strength and altruism (chapter eight).

The insistence on the embodiment of science, as well as on its disunity, emerges also from a reading of *Never Pure*. This volume is a collection of essays, written by Shapin himself in the course of his career as a historian of science. The unifying subject is the production of knowledge in historical settings. The volume is divided in six sections, each of them exploring a specific aspect of the situatedness of science. The short introduction provides the reader with a clarification of the current position held by the author in the context of the studies in the history of science. Shapin begins with referring to the idea of the “transformation of science from a sacred into a secular enterprise from around the middle of the nineteenth century” (p. 10), namely, of what Weber had defined the “disenchantment” of science. Then, he passes to maintain that such supposed disenchantment is also the basis to overcome the naturalistic fallacy, or the idea that scientific enquiries about the world might have some moral or normative implications on the way we live. The mention of the scientific fallacy is relevant to Shapin, as it allows him to continue part of his discourse on the moral features of modern science. Science does not set the standards of how to live and behave; nevertheless, it comprises moral aspects. The first section of the book, *Methods and Maxims*, partly deals with the constitutive relationship between knowledge and virtue, which, according to Shapin, took shape throughout the 17<sup>th</sup> and the 18<sup>th</sup> centuries. This topic is furthermore developed later, in parts three and four, with a short digression on the places and practices of experiments (part two). Part three elaborates on the figure of the scientific person, from a 17<sup>th</sup> century major character such as Robert Hooke, to 20<sup>th</sup> century American industrial scientists. Furthermore, the fourth section accounts for how to develop a good morality through the assumption of moderate patterns of eating and drinking. Whereas this theme might look odd and less functional to the general economy of the book, Shapin maintains that it is of extraordinary interest. It is so, both for those historians who investigate the evolution of medical expertise and lay knowledge, and for those scholars dealing with how the bodily and dietary habits could somehow influence the knowledge production of personages such as Isaac Newton and Descartes. Similarly, part five accounts for some of the historical reasons for the opposition between scientific practices, grounded on a Scientific Method, and the world of common sense, founded instead on a faulty reasoning. The book concludes with a short epilogue, which leaves open three questions: what science is in modern societies, what its role is, and what the moral position of scientists is, whether any may be. These issues are not so different from those already dealt with in *The Scientific Life*, thus suggesting a certain continuity in Shapin’s works. Moreover, they represent both the strengths and the weaknesses of the two books. They represent the strengths, in that both books offer more than mere historical reconstructions; in fact, they themselves are rather reflective of a specific historical moment, that is, the 70s in the United States, with the Cold War, the birth of practical ethics, and the subsequent spread of the interest in the theme of the moral authority of science and scientists in society. On the other hand, they also represent the weaknesses, since many aspects could have probably been better supported from a philosophical point of view, so as to leave less room to ambiguities. For example, it is difficult to understand what Shapin

means when he uses terms such as “virtue” or “personal constitution”. It is even harder to say how these elements are relevant to the production of scientific knowledge, given the extremely fragmented framework in which the author interprets scientific progress. It is apparent that Shapin does not want to give a normative account of scientists’ morality. However, his radical descriptivism results as even less comprehensible, in that it seems to flow into a form of subjectivism, or relativism. This may be a dangerous path to follow, in order to look for explanations of how things work, or have worked, in the history of science. It is exactly by following this path, that Shapin’s indubitable reputation remains nevertheless untouched for inspiring fruitful and controversial debates in the community of the historians of science.

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