BOOK REVIEW:

**“SCIENTIFIC HISTORY: EXPERIMENTS IN HISTORY AND POLITICS FROM THE
BOLSHEVIK REVOLUTION TO THE END OF THE COLD WAR”**

BY ELENA ARONOVA

REVIEWED BY

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In October 1993, Douglass North and Robert William Fogel won the Nobel Memorial Prize in Economic Sciences for having renewed research in economic history. The two men, who have often been described as the fathers of “the new economic history” (also called “econometric history” or “cliometrics”), were honored for having turned the quantified and mathematical tools of modern economics to its historical studies. In the 1960s, thinking with operationally defined variables, usage of statistical data, and formal modeling became a trend in economic history. But the new historiographical approach was neither restricted to economic history nor was it a brand-new innovation. As Elena Aronova shows in her book, during the 1960s quantitative methods gained wide currency in many disciplines, and they relied on ideas about scientific knowledge and methods that had a long history. Even though these ideas varied over time and place, their protagonists shared the belief that historical research should implement a broad range of resources including those coming from the natural sciences. Aronova characterizes the related programs as “scientific history.” “Scientific history,” she observes, is a “shorthand for the diverse ways in which scientists and historians reconciled the techniques, approaches, and values of science with the writing of history” (p. 4). But scientists also borrowed knowledge and methods from historians, either in the context of particular scientific research activities or when they studied the history of science.

Elena Aronova first trained in biochemistry and then became a professional historian of science. Hence, the subject matter of her book is informed by an intuition that is based on her own personal experience, namely that there is no radical difference between the sciences and the humanities (as philosophers such as Wilhlem Dilthey proposed). On the contrary, Aronova observes, there are many parallels between scientific and historical inquiry, and historians and scientists have frequently “exchanged and shared methodologies, approaches, and subject matters” (p. viii).

In her best book chapters, Aronova illuminates intellectual cross-fertilizations of science and historiography by zooming in on the practices of scientists and scientist-historians. In chapter three she follows research endeavors of the Russian geneticist and agronomist Nikolai Vavilov. Between 1917 and 1940, when the Lysenko-led assault of genetics culminated in Vasilov’s arrest, Vavilov explored the geographical distribution of wild and cultivated plant species such as crops by means of genetic examinations. But Vavilov not only meshed natural and agricultural science; in his “genogeography” he also used historical methods. Comparable to recent climate historians, he studied historical treatises and went into archives in order to gather data about past agricultural societies. Supplementing his genetic analysis, his historical approach enabled him to present correlations between early agriculture and the geographical distribution and genetic variation of crops.

In the following two chapters Aronova turns to the “evolutionary history” of the British biologist Julian Huxley, today known as one of the main architects of the modern evolutionary synthesis. As Huxley’s evolutionary history comprised both biological evolution and the social and cultural evolution of humankind, it illuminates the utility of new scientific knowledge for answering questions long tackled in the humanities. Huxley was also the co-organizer (with Lucian Febvre) of the UNESCO *History of Mankind* project, which was organized in the 1940s as a collaborative research enterprise involving hundreds of

researchers worldwide. Even though the project was eventually a failure, it is a good example of methodological transfer –team research along with division of intellectual labor– from the laboratory sciences to historical studies. In her last chapter, Aronova highlights more recent quantitative approaches in historiography ranging from econometric history to computer-based analytics in the history of science. The central figure is the Irish crystallographer, molecular biologist and socialist historian of science John D. Bernal, who was an advocate of the free flow of scientific information and engaged in attempts of founding a central British “institute of scientific information.” While such kind of institute was actually founded in Moscow in 1952, Bernal lent support to the Philadelphia documentation consultant Eugene Garfield, who devised quantitative methods of information management. Bernal also endorsed Garfield’s proposal to use the Science Citation index in the historiography of science for identifying the most important publications leading to scientific discoveries.

In the first two chapters, Aronova embeds these case studies into a rough sketch of Auguste Comte’s positivism and Soviet Marxism which aims to show that these philosophies encouraged transdisciplinary studies interconnecting scientific and historical methods and knowledge. Comtean positivism, Aronova asserts, influenced the first French program of “historical synthesis,” formulated by the philosopher Henri Berr, who founded the influential journal *Revue de synthèse historique* (in 1900) and the *International Center of Synthesis* (in 1925). In 1929, Berr’s collaborators, Lucien Febvre and Marc Bloch, established the famous *Annales School* with the explicit goal of uniting researchers of different specialization in long-term studies of history. Without going much into detail, Aronova draws parallels between this French historiographical movement and simultaneous attempts in Soviet Russia, especially by the leading Marxist philosopher Nikolai Bukharin, to write a new history of science. The International Congress of the History of Science and Technology in London (in 1931) is taken as a key event that brought these approaches in fruitful interaction and further stimulated cross-disciplinary exchanges between science and historiography.

Aronova’s thoroughly researched book uncovers largely submerged historiographical approaches that have emphasized the shared features of all modern knowledge-seeking endeavors ranging from the natural sciences to the humanities. It is a significant contribution to our understanding of both the natural sciences and the humanities. Its originality and sometimes surprising comparisons are thought-provoking for historians of all fields of study, and it is to be hoped that they will stimulate especially the much-needed methodological reflection in the historiography of science.

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