FARA, Patricia, Science: A Four Thousand Year History (Oxford: Oxford University Press, 2009), 424 pp. Hardback. £20. ISBN: 978-0-19-922689-4.

By Josep Simon*

Educational works have always been the quest of great men. One can be learned, but the skill of writing is not a quality that all men possess. Hence, it is a special talent, a rather rare aptitude to have, the faculty of teaching and popularizing! Masters in this art are not likely to leave any memory with us, except the testimony of the students they taught, and the opuscules they wrote, which, in spite of their apparent humbleness, are far more valuable than those heavy volumes, dense in high-flown sentences, full of nebulous theories and, no doubt, completely sterile for humankind, which can dazzle at first sight, but could not really enlighten or instruct.

— F.-N. Moigno, Cosmos (1853), II, 19 mai, p. 513

Patricia Fara's Science: A Four Thousand Year History could have been the object of Moigno's science review, if it was not because she is a twenty-first century writer, a historian, and a woman. In the last decades, Fara has developed a solid career as a historian of science, teacher and writer, characterized by a constant ambition of improvement. Posterity might remember her for this, her hitherto most challenging book. Future historians will tell.

The conception of Science: A Four Thousand Year History lies in the productive interaction of Fara's experience as both a scholar and professional writer, and the practical experience arising from the reception of her excellent Newton: the Making of a Genius (Picador 2003). In this context, the author has combined two major aims: confronting the challenge of writing a new 'big picture' able to replace the old 'From Plato to NATO' narratives. Such picture has to deal with the sophistication, specialization and critical tension between the local and the global, currently characterizing history of science as an academic discipline. Few historians of science have dared to engage in this quest, recently. In addition, Fara aims at expanding and shaping the readerships of science popularization/history of science by offering a product which, while following cultural and commercial trends, has a genuinely historical sensitivity which distinguishes it from many of the books in that market.

A Four Thousand Year History aims at the same fascination that such popular books as John Gribbin's Science: A History, 1534-2001 (Penguin 2003) and Bill Bryson's A Short History of Nearly Everything (Doubleday 2003) caused in the science communication industry and the general public. But Fara's work introduces a different way of narrating the history of science which is faithful to the most recent scholarship in this field. At the same time it cleverly problematizes big subjects such as origins, progress, eschatology and heroism, and introduces prominently others such as social, political and economical interests. The former have frequently exerted a critical fascination in the minds of popular science readers; the latter are often absent in popular science literature.

Patricia Fara's Science is divided into seven sections (Origins, Interactions, Experiments, Institutions, Laws, Invisibles, Decisions), each of which is subdivided into seven chapters – a tribute to the symbolism of that number in human civilization, and a narrative strategy of the author contributing to the compact character of her book. Each Chapter is introduced by a well selected quote which contributes to engage the reader, and with one or two pertinent illustrations. They are short (not much longer than this review) and written as stories which can be read separately. But there is also a general narrative thread linking the book chapters thematically and chronologically from start to end. The emphasis of the book structure is thematic. The linear time scale of more traditional narratives is respected but subtly confined to the background.

With her book, Fara tells us that science is an integral part of culture; that it is shaped by social, industrial and political interests, by ideas as much as by practical experience, and by past events as much as by present developments. Science was different yesteryear and will be different tomorrow, because it is, like its history, a human construction. None of this is new in academic history of science, but the conviction, power and sophistication with which Fara expresses it makes it entirely original. The author of Science teaches us many lessons about the complexity and sophistication of historical writing. Notably, her writing is pedagogically enlightening in combining a clear cancellation of anachronism and presentism with a eulogy of history as an extremely rich way to understand science, past and present.

Her account is also careful and balanced in the introduction of historical actors. Women and workers find their place, and the problem of their biased absence in standard histories is adequately presented. These elements do not push Fara's narrative a step forward, as they do for instance more radically in Clifford D. Conner's A People's History of Science (Nation Books 2005), but, still, they shape her narrative in relevant ways.

Analogously, Patricia Fara's book makes important steps in problematizing 'Eurocentrism' and 'Empire' and it is significant that it introduces balanced accounts on science in early modern Islam and China. However, the author has missed the opportunity of integrating in her account the burgeoning literature on Iberian science and Atlantic history which has already challenged the artificial historiographical boundaries traditionally drawn between the British and Spanish empires. Fara's account is strongest in those subjects that she knows better as a writer and researcher. Overall, her wide thematic coverage is always competent, though. But the real weakness of Fara's global story of science is that unfortunately her lens is mainly British.

A Four Thousand Year History is an admirable big picture chronologically. It has also attempted to be a big picture geographically and in many aspects it manages to do so. It is the work of a highly educated British author with an admirable international outlook and internationalist ethos but, still, Fara depicts the world from a British point of view and addresses mainly Anglo-American readers. The successful translation of her book into other languages will inevitably make this imbalance even more evident. A more prominent place in her story could have been given, for instance, to subjects such as the circulation of people and knowledge, helping to unveil the fragility of national frontiers and their artificial impact on our vision of science and its history.

Nonetheless, Fara's book is the best general introduction to history of science currently available, and a major feat for our discipline. In spite of the aforementioned weaknesses– after all any work has some – Fara's Science will have a major impact in how history of science is taught and practiced during the next decades. Its translation into Spanish (Ariel 2009) and German (Spektrum Akademischer Verlag Oct. 2010) and the publication in February 2010 of its paperback (at half the price of the hardback) are excellent news. The excellence of Fara's work has much to contribute to override the outdated approach presenting history of science as a sequence of Kuhnian scientific revolutions. It challenges too the tediousness of the popular narratives which represent science as an enterprise of geniuses and heroes. Moigno would have surely said: Chapeau! (and doffed his hat in admiration).

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* Kluge Center at the Library of Congress, Washington D.C.