

Longing for the *Longue Durée*[†]

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Historians of science, no less than other historians, are prone to periodic bouts of concern about the coherence and public profile of their field. On *Isis*'s 75th birthday in 1987, Charles Rosenberg lamented that “many practitioners experience a sense of fragmentation, feel their discipline no longer shares a common identity.” “Like every other field of scholarship,” he continued, “we train our students to be increasingly careful and narrow” and yet “we often have to respond to ethical and policy demands”. *Isis* alone could not recover some lost paradise of unity and common purpose, he argued, but it could still foster “a broader and more unified vision” of science and the role of scientists, across time and space.¹ Similar anxieties and hopes informed a forum ten years later in the *British Journal for the History of Science* on “The Big Picture,” where James Secord applauded the gains in sophistication and professionalism that specialization had wrought but saw an urgent need to apply the results “to longer time spans, a broader range of participants, and wider regional and global perspectives.” “Without engagement in larger issues,” he concluded, “our small pictures are inevitably impoverished”; most of the other forum contributors agreed.² *Isis* entered the conversation once more in 2005 with its forum on “The Generalist Vision,” in which David Kaiser, Paula

[†] Forthcoming in response to Karine Chemla, Liu Dun, Ivan Flis, Stephen Gaukroger, John L. Heilbron, Noortje Jacobs, Daniel J. Kevles, Jane Maienschein, Naomi Oreskes, Antonella Romano, Thomas Söderqvist, Evina Steinova, Edna Suárez-Díaz, Paul Wouters, “Viewpoint: *The History Manifesto*,” *Isis*, 2016, 107.

¹ Charles Rosenberg, “Editorial: *Isis* at Seventy-Five,” *Isis*, 1987, 78:515, 517.

² James Secord, “Introduction,” in Secord, ed., “Special Issue: The Big Picture,” *British Journal for the History of Science*, 1995, 26:387, 389.

Findlen, Steven Shapin, and Robert Kohler collectively diagnosed a crisis of “hyperprofessionalism” characterized by the decline of grand narrative, a loss of readership, balkanization, and a retreat into *petite histoire* away from the *longue durée*.³ *Isis* returned to the fray in 2015 with a “Focus” on the history of the humanities and the sciences.⁴ There, Rens Bod noted the decline of *longue-durée* studies but affirmed that “it is beyond doubt that for examining some of the most complex questions in the field ... we need a long-term approach from a broad, comparative perspective” and one fully integrated with similarly long-range histories of the humanities.⁵

Diagnoses and remedies like these will sound as familiar to readers of *The History Manifesto* as they do to its authors.⁶ That book did not address itself to historians of science specifically, but this engaged and challenging “Viewpoint” shows how much it speaks to their concerns. We have both been greatly influenced by works in the history of science and in STS (many of which appear in our footnotes). It is therefore gratifying to have practitioners in a field to which it was not directed nonetheless take it so seriously. Our warm thanks go to all the participants and to Floris Cohen for commissioning their responses. They extend a discussion that has so far been conducted mostly in historians’ house journals.⁷ Just as importantly, they advance a series of debates among historians of science,

³ Robert E. Kohler, Paula Findlen, Steven Shapin, and David Kaiser, “Focus: The Generalist Vision,” *Isis*, 2005, 96:224–51.

⁴ Rens Bod, Julia Kursell, Jeroen Bouterse, Bart Karstens, Lorraine Daston, and Glenn W. Most, “Focus: The History of Humanities and the History of Science,” *Isis*, 2015, 106:337–90.

⁵ Rens Bod, “A Comparative Framework for Studying the Histories of the Humanities and Science,” *Isis*, 2015, 106: 368, 377; see also Bod, *A New History of the Humanities: The Search for Principles and Patterns from Antiquity to the Present* (Oxford: Oxford University Press, 2013).

⁶ Jo Guldi and David Armitage, *The History Manifesto* (Cambridge: Cambridge University Press, 2014).

⁷ We have responded in David Armitage and Jo Guldi, “*The History Manifesto: A Reply to Deborah Cohen and Peter Mandler*,” *American Historical Review*, 2015, 120:543–54; Armitage and Guldi, “Pour une ‘histoire ambitieuse’: une réponse à nos critiques,” *Annales. Histoire, Sciences Sociales*, 2015, 70:367–78.

technology, and medicine about big pictures, broad visions, and the *longue durée* stretching back over almost forty years.⁸

The History Manifesto aimed to assess what had been lost, as well as what has been gained, by the professionalization of history; to evaluate the ethical responsibilities of historians to the present and to the future as well as to the past; and to suggest new analytical tools and novel forms of evidence that might freshly empower historians, not least younger historians, to ask big questions and attempt bold critical narratives. The contributors to this forum have all been stimulated (and some even provoked) by these concerns and they have taken them to places—to ancient China, Latin America, and Davos; into movie theatres, museums, and nuclear plants—where the *Manifesto* had not dared to go. Most of them “engage with the history of history in recent decades ... as actors and not as *observers*,” as Karine Chemla puts it. In so doing, they generously follow the spirit of the *Manifesto*, even if they do not accept all its findings or recommendations. Read together, their reactions represent a field considerably more hopeful about overcoming fragmentation, more open to playing with scale and testing temporality, and more

⁸ See also Casper Hakfoort, “The Missing Syntheses in the Historiography of Science,” *History of Science*, 1991, 29:207–16; Mark Walker, “Science, National Socialism, and the *longue durée*,” *Historical Studies in the Physical and Biological Sciences*, 1994, 24:395–401; Frederick L. Holmes, “The *Longue Durée* in the History of Science,” *History and Philosophy of the Life Sciences*, 2003, 25:463–70; John Harley Warner, “Grand Narrative and its Discontents: Medical History and the Social Transformation of American Medicine,” *Journal of Health Politics, Policy and Law*, 2004, 29:757–80; Colin Jones, Frank Huisman, Jon Arrizabalaga, Danielle Gourevitch, Robert Jütte, and Jacalyn Duffin, “M. D. Grmek Memorial Symposium: The *Longue Durée* in Science and Medicine,” *History and Philosophy of the Life Sciences*, 2005, 27:5–99; Arthur P. Mollala, “The *Longue Durée* of Abbott Payson Usher,” *Technology and Culture*, 2005, 46:779–96; Soraya de Chadarevian, “Microstudies versus Big Picture Accounts?,” *Studies in History and Philosophy of Biological and Biomedical Sciences*, 2009, 40:13–19; Heiko Stoff, “Der aktuelle Gebrauch der ‘longue durée’ in Wissenschaftsgeschichte,” *Berichte zur Wissenschaftsgeschichte*, 2009, 32:144–58; Mathias Grote, “What Could the ‘Longue Durée’ Mean for the History of Modern Sciences?,” Working Paper FMSH-WP-2015-98, Maison des sciences de l’homme (June 2015): <https://halshs.archives-ouvertes.fr/halshs-01171257>.

ready to integrate the local and the global, the particular and the general, than many earlier commentators on the book have been.

Historians of science have had more reason than most historians to be wary of the *longue durée*. The field grew by rejecting internalist genealogies, often composed by practicing or retired scientists, and by dissolving the presumed universality and consilience of scientific understanding into its local, contingent parts: a brittle mosaic of knowledge rather than a seamless fabric of reason. Professional historiography itself matured by throwing off amateurism and whiggism in pursuit of dense, usually archivally derived, contextualization. As Noortje Jacobs remarks, “how to integrate” a “plurality of viewpoints into causally complex but nevertheless singular narratives” remains the key question for all historians, of science as of other subjects. The stakes may be different for distinct communities of scholars but the challenges are commensurable: how to sustain professional standards without sacrificing coherence and how to maintain critical distance without entirely severing the connection between academic historians and their multiple publics.

This exchange is important in providing standards for determining the importance of particular historical projects. One such standard may be the classic mantra: what would this change in the survey (or a text-book)? A focused case-study might provide evidence for re-interpreting the great divergence between Western and Chinese science, or for the divorce of Western mathematics from the cultural and spiritual imaginaries of Islamic or Vedic mathematics: the importance of such studies would only become clear within a broader context.⁹ In this case, the setting is temporal. However, time itself, whether short or long, is only a symptom of narrower or more capacious understandings, such as those counterposed by Liu Dun. The impact of the intervention does not depend on its time-scale but on its argumentative framing, its place within larger structures of causation and explanation: “What does not work,” notes Jane Maienschein, “is little studies without

⁹ Compare, for example, H. Floris Cohen, *How Modern Science Came into the World: Four Civilizations, One 17th-century Breakthrough* (Amsterdam: Amsterdam University Press, 2010).

connection.” This demands sorting the signal from the noise or, in Stephen Gaukroger’s terms, steering between the twin perils of under-contextualization (the bane of whig narratives) and over-contextualization (the besetting sin of many a micro-history), something Gaukroger himself has done in his magisterial multi-volume inquiry into “science and the shaping of modernity” which has so far covered six centuries (1210–1841).¹⁰ The sine qua non should always be: what is the biggest question that this article or that dissertation topic can address? Great and enduring volumes can be written on a fly or on the whale, on one-tenth of a second or on the span of geological time.¹¹ “Criticism is not a matter of scale,” Antonella Romano remarks, but it is surely a matter of method: that is, how we, as historians of all stripes, use individual revisions to debunk enduring mythologies and encourage new angles of vision.¹²

The History Manifesto urged historians to consider their place in the world and their own role in making judgments about its present and its future, as well as the past. It stresses throughout history’s function as a *critical* human science—not a servant of power, a tool of colonialism, or an instrument of dominance, but instead as a solvent of calcified certainties and an inspiration for imagining alternatives. “What was contingent in the past is subject to alteration in the present”: Kevles’s

¹⁰ Stephen Gaukroger, *The Emergence of a Scientific Culture: Science and the Shaping of Modernity, 1210–1685* (Oxford: Oxford University Press, 2006); Gaukroger, *The Collapse of Mechanism and the Rise of Sensibility: Science and the Shaping of Modernity, 1680–1760* (Oxford: Oxford University Press, 2010); Gaukroger, *The Natural and the Human: Science and the Shaping of Modernity, 1739–1841* (Oxford: Oxford University Press, 2016). A fourth volume, on the nineteenth and twentieth centuries, is in progress.

¹¹ Robert E. Kohler, *Lords of the Fly: Drosophila Genetics and the Experimental Life* (Chicago: University of Chicago Press, 2004); D. Graham Burnett, *The Sounding of the Whale: Science and Cetaceans in the Twentieth Century* (Chicago: University of Chicago Press, 2012); Jimena Canales, *A Tenth of a Second: A History* (Chicago: University of Chicago Press, 2009); Martin J. S. Rudwick, *Earth’s Deep History: How it Was Discovered and Why it Matters* (Chicago: University of Chicago Press, 2014).

¹² See also the recent *Annales* dossier, “Histoire des sciences”: Antonella Romano, “Fabriquer l’histoire des sciences modernes. Réflexions sur une discipline à l’ère de la mondialisation,” and Simon Schaffer, “Les cérémonies de la mesure. Repenser l’histoire mondiale des sciences,” *Annales. Histoire, Sciences Sociales*, 2015, 70:381–408, 409–35.

words encapsulate the book's spirit as much as Edna Suárez-Díaz's recommendation of "an informed, careful ... skepticism about our past". The ethical orientation towards the future, and to the present, is now unusual but it is hardly unprecedented: until barely a century ago, it informed the entire enterprise of history (as those who follow Gaukroger's salutary urging to know more of "the history of history" are aware). It is sometimes tarred with the brush of presentism but, as another of our interlocutors, Naomi Oreskes, has argued elsewhere, "motivational presentism"—a frank admission by historians of why they choose their topics and the tools they use to tackle them—remains essential to the practice of history.¹³ To view our own time as if it were the past—as Oreskes and Erik Conway have recently done in their unsettling future fiction, *The Collapse of Western Civilization* (2014), set in the China of 2393—can help to shock our readers and students out of seeming path-dependency into reformulating alternate futures.¹⁴

Imagining futures, as well as constructing the past, may yet be fundamental to formation of communities, an enterprise Chemla finds crucial to the historical enterprise as a whole. *The History Manifesto's* imagined communities are not civilizations (*pace* Suárez-Díaz) but the epistemic communities made up of scholars, activists, policy-makers and other producers and consumers of historical knowledge. Civilizations have what Fernand Braudel called "long-breath destinies" (*destins de long souffle*), as Chemla also reminds us. Narrowly-focused studies cannot, in themselves, dent the destinies of civilizations but when careful research is injected into broader inquiries, it might change the fate of nations. That capacity is evident to Liu, who sees a role for *longue-durée* history in overcoming anti-intellectualism in contemporary China. Mao may appear less formative a force for the present than the birth of mathematics; the Cold War less pivotal than the knowledges generated by early modern cultural contact. Such liberating long-range perspectives may generate, in Liu's inspiring words, "ideas and systems conducive to the birth of a new world".

¹³ Naomi Oreskes, "Why I Am a Presentist," *Science in Context*, 2013, 26:595–609.

¹⁴ Naomi Oreskes and Erik M. Conway, *The Collapse of Western Civilization: A View from the Future* (New York: Columbia University Press, 2014).

To paraphrase William S. Gibson, new worlds are all around us: they are just unevenly distributed. *The History Manifesto* could hardly encompass all, or even many, of those treated in this forum. In this respect, Kevles's syllabus of omissions—*amicus* briefs and PBS specials, best-sellers by his Yale colleagues and the smash-hit musical *Hamilton*—is a little beside the point, especially as he too readily concedes what *The History Manifesto* contests: that other social scientists have (and, he believes, should have) the upper hand in public debate and policy formation. More productive is Thomas Söderqvist's advocacy of museums as arenas where the "three-dimensional architectonics of the museum space invites involvement with global dimensions and long stretches of time". Here is where curatorial care is necessarily joined to the ethics of public understanding, so that historians cannot escape their responsibility to make sense of the specific within the broad sweep of generality and. In another register, Ivan Flis, Evina Steinova, and Paul Wouters remind us, in regard to the digital humanities, that micro-histories and big data are now in a dialectical relationship—each complements the other (as micro-history was originally intended to do, as a means of testing grand narratives, whether Marxist or structural, in pursuit of the "exceptional normal"). Flis, Steinova, and Wouters adopt an appropriately critical internalist stance towards the digital humanities, by defending it against those—not least university administrators—who demand its quick (and dirty) results, yet also by advocating it as a mainstream method for historians at large, including historians of science. Here, as *The History Manifesto* emphasized, is one new world for all, especially for younger scholars seeking to make their mark in a competitive, hierarchical historical profession.

The History Manifesto has had an outsize impact for such a short work, and certainly one well beyond the expectations of its authors. "Reception is a creative process," as Chemla rightly remarks: *habent sua fata libelli*. Enthusiasm for the book has roughly correlated with distance from the centers of academic power. Criticism of it has likewise corresponded with proximity to national historiographies, especially of the modern period. Its reception, to quote Chemla again, has been "neither neutral, nor transparent," but it has inspired a bracing global debate about the ethics and purpose of history. Some of the complaints about its alleged blind

spots and omissions recur here in the comments of Daniel Kevles and J. L. Heilbron, even as their remarks also give hope for the future of historians in public discussion. Yet most of the contributions to this “Viewpoint” productively reframe *The History Manifesto’s* argument in ever wider disciplinary, geographical, and temporal perspectives. We are grateful to all the contributors for their engagement with the book. Collectively, they reaffirm our sense that the stakes for the future of history—including the history of science—have rarely been higher.