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Bernadette Bensaude-Vincent and Christine Blondel, eds., *Science and Spectacle in the European Enlightenment*. Farnham, Surrey and Burlington, Vt.: Ashgate Publishing Ltd., 2008. 164 pp., \$99.95 (us), ISBN 978-0754663706.

Review by Noah Shusterman, Temple University.

For cultural historians curious what has been going on in the history of science in recent years, spending some time reading a few of the papers that make up *Science and Spectacle in the European Enlightenment* would be a perfect way to find out. This collection of ten papers, which grew out of a 2003 Paris conference, contains much of what is fascinating about science for people who are rarely fascinated by science. The book is not an account of intellectual debates between learned men, or of the politics of royal patronage. This is the science of the street and the stage, with strange concoctions and wild explosions and even some disconcerting anatomy modeling.

If non-scientists can find this material interesting, it is largely because the focus of the book is on the interactions between the world of science and the general public—on how scientists tried to fascinate non-scientists. The essays focus on things like itinerant science lecturers or scientific demonstrations before large crowds—the sort of milieu out of which the Montgolfier brothers emerged, with their eighteenth-century hot-air balloons and their throngs of fascinated onlookers. The stars of the story here are not men who helped shape the course of modern scientific discovery, like Newton or Buffon or Lavoisier. Rather, the stars are men who brought science to the public, who combined an understanding of basic principles and techniques with the skills of an entertainer.

Taken as a whole, the book does a convincing (more than convincing, even) job of establishing several key points. First, it shows the vitality of “public science” during the eighteenth century. Scientific performances were frequent, had huge crowds, and made lasting impacts on their viewers. Second, the audience for public science appreciated the sensible; there was always a balance to be made between explaining principles and showing the audience what it wanted to see. Third, the division between learned science and popular science was a permeable one. Finally, the different articles do a good job of showing that popular science had a fairly specific geography. As two articles on Paris point out, there were three Parisian locales that played the largest role in the story: the Boulevard du Temple; the left bank; and the Palais Royal. Other regions get less specific, detailed treatment, but there is still a relatively clear picture of a growing infrastructure for scientific performances, one which was grafted onto leading scientific establishments and academies in some places, and spaces of spectacle and entertainment elsewhere.

If the material is fascinating, the collection all together makes for a flawed book. There is too much overlap. The first three chapters announce similar intentions and point out similar risks and benefits, and while each is strong on its own, the book as a whole would have benefited from a stronger editorial hand. Several authors focus more than necessary on the implications of Jurgen Habermas's 1962 *Structural Transformation of the Public Sphere*.^[1] Two essays—those of Lynn and Lehman—focus on Paris. Both tell interesting stories, but again, they overlap more

than they should. Readers, of course, are not required to read any book cover-to-cover, especially not a collection of essays like this one. For those reading selectively, the overlap winds up being something of a benefit, as reading just a few of the essays can give a strong sense of the whole. And the overall level of scholarship is high.

Still, given the overlap, the book is strongest when authors focus on specific times and places, or even people. Oliver Hochadel's paper focuses on one man, a fairly obscure "electrician" named Martin Berschitz, who made his living traveling across Germany giving performances. Hochadel is able to use Berschitz's story to help recreate the lives that these men led and the sort of performances they gave, since there were apparently two to three dozen men living similar lives at the time. Berschitz's encounter with the more established (and better documented) physician Georg Christoph Lichtenberg gives Hochadel a chance to show how an establishment scientist could use itinerant scientists as a foil for their own identities. "An itinerant lecturer was everything a German professor did not want to be—quite the opposite, in fact" (p. 100). Hochadel seemingly cannot help himself, however, in choosing to defend Berschitz, and even to take a few swipes at Lichtenberg and his inferior "practical abilities" (p. 98).

Jan Golinski's article on Joseph Priestley, an eighteenth-century English dissenting minister, also stands out due to its specificity. Golinski is able to trace Priestley's adventures as he used public scientific experiments to inspire awe and emotions in his audience, as a way of getting them to understand the power of nature. The essay also makes the strongest argument for the connections between science and political change. When a loyalist mob sacked Priestley's home, and Priestley had to flee to the U.S., his critics saw this as the result of his having incited passions in a mob that turned out not to be controllable. Burke and other conservatives, Golinski notes, "metaphorically identified the revolutionary fervour they feared would spread from France with Priestley's gases and phlogiston" (p. 125).

The collection ends on a fascinating but also deeply disturbing note with Jonathon Simon's paper on Honoré Fragonard, an eighteenth-century anatomist. Unlike the other scientists, who specialized in demonstrations performed on-stage or in performance-like classroom settings, Fragonard's specialty was anatomical models, which he created using the cadavers of both people and animals. Some of the models are still extant, so while there are fewer descriptions of Fragonard's performances, there are photos of the models. These are quite disturbing, images that look less like something from the eighteenth century, and more like characters from a contemporary dystopian science fiction movie.

Hochadel's essay might take the defense of the non-elite scientist the farthest, but the relationship between elite science and public science is one of the most prominent themes of the book. The authors are unanimous in questioning the distinction between the two. As Larry Stewart argues, the distinction between dramatic and scientific, between laboratory and public, is misleading. Inventions like the Leyden jar, a glass jar of water charged by a wire running through it, would become "the whoopie cushion of the 1740s" (p. 59). Academic scientists, though struggling to establish the distinctions between themselves and the popularizers and entertainers, would nevertheless borrow more than they were comfortable with. Christine Lehman sees Lavoisier's 1785 demonstration of the decomposition and recombination of water, "still celebrated as a mythical experiment," (p. 115) as being derivative of earlier scientific popularizers. If this period saw a growing distinction between academic and popular science, though, the primary appeal of the book remains the glimpse it gives into the cultural life of eighteenth-century Europe. The crowds gathering at performances, the fascination with new inventions, the wonder at electricity that would give way to a population that would take

electricity for granted—these are the lasting impressions of this book. Though it grows out of the history of science, it has just as much relevance for cultural historians.

LIST OF ESSAYS

Bernadette Bensaude-Vincent and Christine Blondel, “Introduction: A Science Full of Shocks, Sparks and Smells”

Larry Stewart, “The Laboratory, the Workshop, and the Theatre of Experiment”

Liliane Pérez, “Technology, Curiosity and Utility in France and England in the 18th century”

Jessica Riskin, “Amusing Physics”

Michael R. Lynn, “Experimental Physics in Enlightenment Paris: The Practice of Popularization in Urban Culture”

Paolo Bertucci, “Domestic Spectacles: Electrical Instruments between Business and Conversation”

Oliver Hochadel, “The Sale of Shocks and Sparks: Itinerant Electricians in German Enlightenment”

Christine Lehman, “Between Commerce and Philanthropy: Chemistry Courses in 18th-century Paris:”

Jan Golinski, “Joseph Priestley and the Chemical Sublime in British Public Science”

Lissa Roberts, “Chemistry on Stage: G. F. Rouelle and the Theatricality of 18th-century Chemistry”

Jonathan Simon, “Honoré Fragonard, Anatomical Virtuoso”

NOTES

[1] Jürgen Habermas, *Strukturwandel der Öffentlichkeit* (Darmstadt: Herman Luchterhand Verlag, 1962), translated as *Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, trans. Thomas Burger and Frederick Lawrence (Cambridge, MA: M.I.T. Press, 1989).

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