
H-France Review Vol. 3 (June 2003), No. 67

Jessica Riskin, *Science in the Age of Sensibility: The Sentimental Empiricists of the French Enlightenment*. Chicago: University of Chicago Press, 2002. 296 pp., 3 halftones, 39 line drawings, bibliography, and index, \$25.00 U.S. (pb). ISBN 0-226-72079-9.

Review by Kathleen Wellman, Southern Methodist University.

Jessica Riskin's book intends to provoke a reappraisal of the nature of science in the French Enlightenment. To capture her take on the period, she has coined the term "sentimental empiricism" to mean "a tradition of science founded on the assumption that knowledge grew not from sensory experience alone, but from an inseparable combination of sensation and sentiment" (p. 15). In her introduction, Riskin calls into question the notion that Enlightenment science, especially its appeal to empiricism, was "hard-nosed, unemotional," by claiming instead that "empirical knowledge was not a matter of impassive adherence to the hard facts of sensory experience, but rather one of sensibility." (p. 1) Riskin relies on an *Encyclopédie* definition of sensibility as the "capacity to perceive impressions of eternal objects" and sentiment as an "answering movement" of the sensible creature. (p. 1) She notes that "tracing emotions to sensory experience, implied that moral sentiments might be subjected to empirical scrutiny and manipulation" (p. 5).

Each chapter sets out particular examples of how sensibility is at play in French science and develops the implications of those examples for both the moral sciences and public policy. Riskin looks first to the sources of the culture of sensibility in the philosophical and scientific debates about sensation and sensitivity of the late seventeenth century. Such debates, especially those around the question of blindness, set the ability to sense and to be sensible in opposition to solipsism. This ability made one morally receptive, and thus questions of sensitivity are inextricably tied to social engagement.

Riskin points to the famous surgery to remove cataracts from a man born blind to discuss what this case entailed for understanding how knowledge was acquired. The case was seen as a crucial response to the epistemological question posed by Molyneux as to whether a newly sighted blind man could distinguish geometrical shapes. Were geometrical ideas innate as Descartes suggested or dependent on the senses as Locke maintained? Those who operated and experimented on the blind wondered how the mind became receptive to ideas outside of it. Could the newly sighted recognize that objects were external to themselves? Such questions, Riskin claims, made intuition central to sensation. Diderot's *Letter on the Blind* developed the inverse, that it to say, the solipsistic implications of a lack of sensitivity. These questions about the relationship between sensation and morality were concretely brought to life in the Institution Royale des Jeunes Aveugles.

Benjamin Franklin's physics provides a compelling demonstration of Riskin's contention that "the rejection of mechanist physics was an expression of sentimental empiricism" (p. 69). Sentimental empiricists rejected mechanism because it did not acknowledge the sensibility that these thinkers projected onto the natural world. Franklin's use of electricity offered a view of physics compatible with sentimental empiricism; he invoked a teleological nature and proposed "an open, sympathetic sensitivity

to nature's projects" (p. 72). The investigation of electricity Riskin identifies as "open, sensitive empiricism" in sharp contrast to "close-minded, self-engrossed mechanism." Franklin saw nature as purposive, engaged in an effort to restore balance, an understanding of nature that could readily be applied to the social sphere.

Such an application was carried out by French physiocrats, who considered Franklin's electricity analogous to the economy. They believed that nature's laws extended into society and were attracted to Franklin's physics, which used moral arguments to sustain science. Such arguments had clear political implications. As Turgot put it, Franklin "seized the lightning from heaven and the scepter from tyrants" (p. 106). The physiocrats were not simply opposed to mechanism; they were explicitly indebted to sentimental empiricism. They invoked teleology in political debates and tarred mercantilism with the brush of system making. So effective, or perhaps so plastic, was this language that it was applied with equal fervor to contest the physiocrats' reform efforts. Turgot's critics denounced him for seeking to impose a system at the same time that he discredited his opponents on the same grounds.

The next several chapters reveal even more dramatically the ambiguities involved in arguing from positions Riskin defines as sentimental empiricism. A complex law case and scientific debate were launched when the neighbors of M. de Vissery de Bois-Valé argued that his lightning rod was dangerous. A young lawyer, Maximilien Robespierre, ultimately won the case. Riskin contends that he "persuasively resolved the problem at its heart, namely the proper relations of scientific to legal authority." Law and physics were two disciplines united by their belief in the irreducible particularity of the fact. Particular facts then stood in opposition to theory and to system.

According to Riskin, Robespierre's familiarity with the notion that knowledge of nature resides in sensibility, not theory allowed him to develop his legal strategy. In disputes about the lightning rod, both theories and expertise stood in the way of knowledge, and thus Robespierre would present only facts. But, as Riskin acknowledges, Robespierre presented not facts but generalities. The arguments of the prosecutor too emphasized their empirical basis, but Robespierre argued against them as theories. Ten years after Robespierre's victory in this case, using his arguments against scientific expertise, the National Convention abolished academies.

The legal proceedings against the claims of Franz Anton Mesmer to treat and cure the Parisian population by directing their animal magnetic fluids highlights a critical dilemma for sentimental empiricism. By applying sensiblist science too literally, Mesmer exposed the problem of relying on feelings as arbiters of truth. Although the lightning rod case began with a popular protest against science and the Mesmer case launched a philosophical protest against a popular practice, they are, according to Riskin, reflections of "the Janus-faced creed of sensibility," a term "so protean" it could be invoked both to support a position and to argue its opposite (p. 190). Mesmer brought the problems of the language of sensibility into high relief as he used it to endorse his practices. To refute Mesmer's practices, his opponents were forced to argue that his patients were not feeling but imagining. They defined imagination as an insensible, detached faculty that could overpower sensibility. This faculty was politically dangerous; imagination could lead the people to revolt as it overpowered sensibility.

Finally, Riskin connects Lavoisier's work on a new nomenclature for chemistry to the role of language in civic education developed in the early stages of the French Revolution by thinkers such as Condorcet. Both of these uses constituted a "sentimental instrumentalism." As Riskin puts it, "romantic and sentimental empiricism of sensiblists gave way to the idealism and instrumental empiricism of social engineers." (p. 229). This new use of language is characterized by the beliefs that names arbitrarily refer to objects and that language is socially constructed. This instrumentalist use differs from the earlier chemical language, which placed chemists in a privileged position; they had both greater access to nature, and thus their use of language corresponded to nature. Debates over the language of chemistry parallel those over the role of language to form citizens. Just as earlier forms of chemical language

corresponded to the attacks of some revolutionaries on civic education, so too civic education, like the new chemical nomenclature, presupposed no essential connection between words and nature and thus could be deemed mere manipulation of language.

The conclusion briefly traces the legacy of "sentimentalism." Although modern science persists in claims to rationalism and dispassion and looks to the Enlightenment as an important antecedent for these claims, Riskin insists that it is important to acknowledge that science was "cooked in the crucible of emotionalism" (p. 283). She finds resonances of these claims to rationality set against actual appeals to sentimentalism both in the culture wars in the history of science and in French political discourse surrounding the bicentennial of the French Revolution.

Sentimental empiricism provides the means by which Riskin not only places the science of the Enlightenment in a rich cultural context but also brings to life a number of fascinating debates. Historians have overlooked some of them. Familiar cases, like that of Mesmer, have been set in a new interpretive frame. Each chapter is marked by a deft, erudite exploration of these debates, especially the role that language plays and their ramifications for cultural and policy issues. The notion of sentimental empiricism allows Riskin to range widely to explore science and culture. Nonetheless, a "sensibilist science" remains elusive; it is difficult to determine, despite Riskin's own careful analysis, just what it means to be a sentimental empiricist or how the term distinguishes the Enlightenment from earlier periods.

When Riskin works through the various debates she treats, several features emerge that group sentimental empiricists. They attack systems and abstraction; they appeal to experience and are aware of that which experiences, that is to say, the response of the individual to sensation. They are concerned with the emotional, sentimental, or moral response of the individual to sensation. Because the term is so inclusive, what seems to ultimately unite those who practice "sensibilist science" or those who apply it to the social sphere is an invocation of one of those terms and a rejection of mechanism and systems. Using the rubric of sentimental empiricism, Riskin moves from Lockean sensationalism to revolutionary reforms. But such an inclusive term poses some problems. First of all, it is difficult to imagine that any writer treating the medical or natural sciences, even much before the Enlightenment, would not fit this definition. Perhaps the term moves too readily from sensation, to that which senses, to sensitivity, to sensibility, sentiment, and sentimentality.

Those medical writers most associated with mechanism in the seventeenth century take stances similar to those Riskin uses to define sentimental empiricism. Even such a paragon of mechanistic physiology as Guillaume Lamy insists in his *Explications mécaniques*, for example, that there are great differences between perceptions and the bodies that cause them (p. 10). Lamy emphasizes that the movements of the sensitive soul are perceptions or passions (p. 39), and he treats extensively the "internal senses," in this particular text, "les sens commun, l'imagination, et la mémoire."^[1] Hermann Boerhaave, another prominent mechanist, urges all physicians to eschew any system in medicine and to privilege experience over reason in medicine.^[2] Might not even Descartes, an unreconstructed villain of this account, be construed as a sentimental empiricist by the terms Riskin uses? After all, Descartes too appealed to the moral utility of science, to the sentiments of his readers, and to their common sense in his *Discourse on Method*. His *Treatise on the Passions* could be readily incorporated into the "sentimental empiricist" camp.

Because the terms "sentimental empiricist" and "sensibilist science" seem to incorporate such a wide array of positions, they blur important scientific debates of the early modern period. Discussions of that which senses range from vitalist to materialist with all of the attendant complications, but such distinctions are lost in sentimental empiricism. Many of the features of "sentimental empiricism" are tenets of vitalism. Positions Riskin attributes to sentimental empiricism resonate within long-standing and well-articulated scientific debates. Just to take a few points from the case of Franklin: While

Franklin's views of electricity as purposeful no doubt challenged mechanism, there were many different sources of the criticism of mechanism.

Virtually every eighteenth-century medical writer identified with mechanism challenged some aspects of the application of mechanism to the human body. The invocation of teleology by Franklin's supporters makes them seem more Aristotelian than empiricist. A notion of purposive nature also belongs to the vitalist position in the hard fought mechanist-vitalist debates. Franklin's physics has this moralistic overtone, Riskin maintains, because he sees nature as working to maintain a balance. This position seems to reflect the Hippocratic-Galenic medical tradition. The appeal of teleological arguments might have more to do with religion than Riskin acknowledges. Thus "sentimental empiricism" seems to reduce the complexity and vitality of some contemporary scientific debates.

Historians of science will find debates characterized as those between "sentimental empiricism" and its adversaries a less than illuminating way of approaching debates that were significant in the eighteenth-century and remain so in the history of science. Debates over sensation are more usually seen as a conflict between Lockean and Cartesian epistemology with materialism lurking in the wings. Attacks on mechanism are seen not simply as espousing "sentimental empiricism" but also articulating vitalism. Whereas Riskin treats mechanism as an enemy of "sentimental empiricism," vitalism never makes an appearance in this account of eighteenth-century science. The claims of traditional chemical language, epitomized by Vernel, arguing for the privileged status of the chemist and calling for a new Paracelsus perhaps should be read back into the history of early chemistry rather than forward into "sentimental empiricism."

The polemical appeal, but lack of adherence, to a clearly defined set of ideas that characterizes "sentimental empiricism" perhaps explains why it is deployed so frequently on both sides of a debate and to different ends. For example, although the physiocrats explicitly relied on Franklin's physics to support their economic views, when Franklin did the same, his economic views did not correspond to theirs. Franklin argued for balance in nature, yet rejected a balance of powers in government. In the first case, Riskin sees the balance as a reflection of sentimental empiricism, in the second, as an attack on mechanism. The elasticity of the term works to collapse some of the antitheses Riskin sets out. As she acknowledges, both sides in her the debate between "sentimental empiricists" and "sentimental instrumentalists" over chemical language and civic language rely on the same language and ideas.

Has Riskin's book changed our understanding of Enlightenment science away from hard-core rationalist, mechanism toward sentimental empiricism? Those few scholars who retain such an extreme view of the character of science in the Enlightenment will find sufficient reason in this work to renounce their adherence to this straw man. For all those who appreciate that recent scholarship has revealed Enlightenment science as more complex and diverse than such a rigid dichotomy suggests, this study provides very engaging cases to further set science in the broader cultural concerns of the eighteenth century.

Should we now adopt the term "sentimental empiricism" coined by Riskin to characterize science in the period? Such an adoption, for the reasons discussed above, might ultimately blur distinctions in scientific debates that one would find useful to retain. But even if one quarrels with the neologism Riskin has coined, this book is crucial, thought-provoking reading for anyone interested in the Enlightenment or the history of science.

Ultimately Riskin suggests we might replace the term "the age of reason" with "the age of sensibility." Such a claim develops the ideas of other scholars, Anne Vila and Elizabeth Williams in particular, who have explored sensibility and the connection between the physical sciences and the moral sciences in the second half of the eighteenth century especially in medical literature.[3] Riskin pursues this perspective in new directions by treating different kinds of scientific and cultural debates. As such, her work makes

an important contribution to understanding the mutual relationship between science and culture in the French Enlightenment.

NOTES

[1] Guillaume Lamy, *Explications mécaniques et physiques des fonctions de l'âme sensitive* (Paris, 1688), p. 10, 39.

[2] Hermann Boerhaave, *Institutions de médecine, traduites du latine en français, par M. de La Mettrie* (Paris: Huart, 1739-1740), preface.

[3] Anne C. Vila, *Enlightenment and Pathology: Sensibility in the Literature and Medicine of Eighteenth-Century France* (Baltimore: Johns Hopkins University Press, 1998); and Elizabeth Williams, *The Physical and the Moral: Anthropology, Physiology, and Philosophical Medicine in France, 1750-1850* (New York: Cambridge University Press, 1994).

Kathleen Wellman
Southern Methodist University
kwellman@smu.edu

Copyright © 2003 by the Society for French Historical Studies, all rights reserved. The Society for French Historical Studies permits the electronic distribution of individual reviews for nonprofit educational purposes, provided that full and accurate credit is given to the author, the date of publication, and the location of the review on the H-France website. The Society for French Historical Studies reserves the right to withdraw the license for redistribution/republication of individual reviews at any time and for any specific case. Neither bulk redistribution/republication in electronic form of more than five percent of the contents of H-France Review nor re-publication of any amount in print form will be permitted without permission. For any other proposed uses, contact the Editor-in-Chief of H-France. The views posted on H-France Review are not necessarily the views of the Society for French Historical Studies. ISSN 1553-9172