

The self-fashioning of French Newtonianism

J. B. Shank: *The Newton Wars and the beginning of the French Enlightenment*. Chicago and London: The University of Chicago Press, 2008, xv+571pp, \$55.00 HB

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J. B. Shank has written a major cultural history of Newtonianism in the French Enlightenment—or rather a study of how Newtonianism was constructed to serve the purposes of the “self-fashioning” of various key figures in the French Enlightenment. As straight history of ideas, it can be read as providing a French counterpart to works such as John Gascoigne’s masterful (1989) study of science and religion at Cambridge, or as a more detailed, more culturally and rhetorically sophisticated book-length extension of analyses such as Robert Schofield’s “taxonomy of eighteenth-century Newtonianisms” (Schofield 1978). But Shank is also interested in a different approach, a different form of analysis, which in fact challenges “the classic narrative produced by the Enlightenment philosophes” (21). He uses lots of language that harks back to the heyday of theory in the humanities—the book is “a critical genealogy of beginnings,” a “postmodern,” “post-Enlightenment” history of an event—but in fact very little of this really has an impact on the detailed analyses produced over the next four hundred and fifty pages.

Brunet’s (1931) book on the introduction of Newton’s theories into France in the early eighteenth century, and Koyré who refers to it approvingly, are targeted by Shank for their uncritical acceptance and reproduction of the *philosophes*’ narrative of the heroic Newton—a reproduction of “Enlightenment modernity itself,” as well as of the canonical narrative of the Scientific Revolution, which rests on the figure of Newton as its “climatic, synthetic hero.” Indeed, Shank calls his book a “postmodern and post-Enlightenment history of a crucial moment in the beginning of Enlightenment modernity,” which is precisely “the moment when Newtonian science became linked to it as its genetic code and avatar” (15). Shank wants to

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debunk the “origin myth” of the Enlightenment—here, the French Enlightenment—as the direct intellectual inheritor of Newton. He argues that French Newtonianism was a vague concept, that public maneuvers and contests challenged and reshaped the Newtonian doctrine through the 1730s and 1740s, when the debate between Cartesians and Newtonians was at its peak. At the center of all of this was Voltaire, who exploited these divisions in increasingly public and polemical ways to create that characteristically Enlightenment figure, the *philosophe*. And Voltaire’s key source on Newtonian science was Maupertuis, the Secretary to the Berlin Academy of Sciences; Voltaire expressed his judgment on Maupertuis’ Newtonian pedigree with the nickname “Sir Isaac Maupertuis” (Voltaire 1877–1882).

When the *Principia* came out, no one in France read it; a century later Newton and his work were “held to be the personification of modernity” as Shank says (12). Shank even shows portraits of noblewomen, such as Mademoiselle de Ferrand, posing in front of volumes of Newton. And the cover illustration is Étienne-Louis Boullée’s 1784 “Cénotaphe à Newton,” part of the utopian project for a heroic city that was meant to express the spirit of Enlightenment. What Shank calls the “Newton Wars” is a series of “culture wars” in the self-constitution of the French Enlightenment, within which he admittedly overstates the role of Newton (or rather of the figure of Newton). The definition of the boundaries of these Newton Wars is always a little fluid throughout the book; the dispute over the priority of calculus is the “first shot,” the “trigger of all triggers” (179); the debate launched by the Leibniz–Clarke debate, as to the relation between natural philosophy and religion, is another “combat theatre” (215). But the book spends much more time on the careers and intellectual manipulations of Voltaire, Maupertuis, D’Alembert and even Diderot—who gets a long and rather unnecessary capsule biography here; this is both strange because it comes in the ‘coda’ at the end of the book, essentially repeats a standard picture of Diderot, and in fact completely misses his anti-Newtonianism! (Compare the admittedly “overenthusiastic” analysis in Guédon (1979).)

It was not the specific contents of Newton’s doctrines that opened up the French Enlightenment, Shank argues, but rather the way in which they were deployed to shape the intellectual debate and to characterize its actors—including the couple *philosophe*-public. And at times he is explicit that we should not worry about determining specific boundaries, definitions, or locations of these Newton Wars, since “Newtonianism in France functioned less as a coherent and consistently defended set of scientific ideas than as a political position that united savants with very different intellectual agendas” (408)—a somewhat laissez-faire attitude toward his own topic, which Shank sometimes rectifies with slightly portentous images, speaking, e.g., of “centrifugal tendencies” versus “centripetal tendencies” in the construction of French Newtonianism in the mid-eighteenth century (470). The difference between the reception of the *Opticks* and of that of the *Principia* is not really discussed either.

Fortunately, the analysis is much more focused and precise than these sorts of pronouncements would lead one to believe. *The Newton Wars* doubles as an intellectual study of the role of science in the French Enlightenment, and its “profiles” of Fontenelle, Maupertuis, D’Alembert, Émilie du Châtelet, Voltaire of course, but also people like Crousaz and lesser academicians, are first-rate and quite

useful. It is also extremely sophisticated and accurate in discussing the various “hybrids” of Newtonianism with Cartesian or Leibnizian elements (albeit not what Schofield called “Baconian Newtonianism”), rather than just opposing old Cartesianism and new Newtonianism. Chapter 7, on Leibnizianism in the French Enlightenment, is excellent. The issues here range from the principle of least action to the increasingly materialistic interpretations of the monad (“both [Leibnizianism and Newtonianism] could be imagined as offering a philosophy of nature that made innate material forces in bodies the causal agent in a deterministic universe governed by impersonal, mathematical laws,” 433). Maupertuis again is a key figure, for he not only is a Newtonian in a variety of ways but also considers that Newtonian attraction does not sufficiently account for organic phenomena, for the processes of generation. In his *Système de la nature ou Essai sur les corps organisés*, he reflects on this at length, accepting that the same force of gravitation-attraction that controls the behaviour of bodies in space governs the formation of organic bodies, but also reinterpreting the force of attraction as *affinity*. Thereby this force shifts from being a strictly mechanical process understood in Newtonian fashion and gains “Leibnizian” qualities.

Where does Shank’s analysis leave us? Regardless of the occasional gestures toward “theory” that do not really support the overall thrust of the book (“This is a book about a beginning that seeks to escape the spell of teleological origin stories,” 14), much of the discussion is helpful and original. One historical point on which one might disagree is the exaggerated claim that Newtonianism was “an entanglement of all the hot-button topics of the day—science, nature, experiment, materialism, Spinozism, radical religion, publicity and politics, among others” (163). Radical deists were not always so keen on Newton! And Shank does not tell us clearly if he has a position on various basic questions that naturally arise here, such as: What sort of connection is there between Newton and Newtonianism? What is specific about French Newtonianism in this period? What is the fate of Newton’s ideas concerning the relationship between natural philosophy and God, since these seem quite far removed from mainstream discourse in the French Enlightenment (whether we are thinking of the ‘moderate Enlightenment’ or the ‘radical Enlightenment’ in Jonathan Israel’s parlance)? Certainly Newton’s claim that a discourse on God “from the appearance of natural things” certainly “belongs to Natural Philosophy”, as he says in the General Scholium to the *Principia*, does not wash well with Voltaire’s deism (or his demarcation of natural philosophy versus religious questions). In the end, Shank’s interest is more in “Newton’s role in provoking the French Enlightenment” (479). He is not studying Newton’s impact so much as *what people said and did in the process of constructing Newtonianism* (and by implication the figure of Newton). And that he has done very well.

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