Book Reviews

David E. Nye. *Electrifying America: Social Meanings of a New Technology*. Cambridge, Mass.: MIT Press, 1990. xv + 479 pp., $ 40.50. Illustrated.

After having visited the Buffalo Pan-American exposition in 1901, a young woman recorded in her diary about "the triumph not of Aladdin's lamp, but of the masters of modern science over the nature-god Electricity." Thirty years later a Tennessee farmer said that "The greatest thing of earth is to have love of God in your heart, and the next greatest thing is to have electricity in your home." The symbolic, and sometimes religious, significance of electricity among ordinary people is one of the main themes in David Nye's book on electrification in America. During the period from 1880 to 1940 the country was gradually electrified in a dual meaning of the term: Electrical power became the backbone of America's industrial strength, transformed its cities and homes, and profoundly influenced demographic movements and corporate structures; but it also acquired a social and symbolic meaning independent of its practical use, 'electrifying' the spirit of an entire generation of Americans. Nye's work provides a detailed and penetrating analysis of both aspects, which are masterfully interweaved with a general account of the social and cultural history of the period. Streetcars, incandescent lamps, motors, refrigerators, washing machines, and electric medicine are given high priority because of the immediate impact these technologies had on people's life. Strangely, telegraphy and telephony receives almost no attention at all, although these branches of electricity surely were of no less importance than such gadgets as the "electric necktie" or the "electric walking cane."

I consider the book primarily a contribution to the history of modem technology, but in fact it is much more. In accordance with Nye's aim of giving a wide-ranging analysis of the social and cultural impact of electricity (and, conversely, of the impact of the socio-cultural environment on electricity), he uses a variety of sources and approaches not usually found in histories of technology. His approach is basically that of the social historian, which he extends with approaches inspired by art history, literature, anthropology and history of material culture. This might easily lead to mere eclecticism, but Nye succeeds in integrating the approaches into a coherent and fascinating narrative of how the average American responded to a new technology. He deals with

the lighting of the cities, streetcar transportation, housing, the factory structure, and the effect of electrification on rural America. However, Nye emphasizes throughout the work that it is fundamentally wrong to consider, either humans or their social and material institutions as passive objects acting under the influence of an external force called electrification. Rather, electrification is itself a social construction. Another main point is the symbolic nature of the various manifestations of electrical technology. Although electricity was of course a highly useful agent, its social history cannot be explained in purely functionalist terms. The objections against functionalist historiography are not new, but Nye provides much new evidence for the necessity of a non-functionalist history of technology.

Having thus praised *Electrifying America,* as indeed it deserves, I want to address critically some of Nye's fundamental assumptions. The book is a social history of technology in which the traditional focus of the discipline (such as the invention and development of new technologies) is absent and replaced with ordinary peoples' attitudes to and use of a technology. This approach does not exclude the more technical and innovative approach of other works, but is rather the same subject-matter seen from one end of the spectrum. In the history of electrical technology there is room both for the inventive work of Edison and the attitudes of anonymous citizens of Middletown, the typical American town which is a central element in Nye's book. The reliance on the average citizen has its advantages, but also, as all averaging, its dangers. Apparently, the community of Middletown does not include the poor, blacks or Hispanics, but only a white middle-class and a few wealthy families. Since Nye argues that electrical technology was (and still is) socially specific, it would have strengthened his argument if this specificity was documented also for minority groups as well. We receive detailed information about the attitudes of Middletown citizens, but none about the importance of geographic, religious and social differences. Nor does Nye systematically compare the electrification of America with that of Europe, although this would certainly have resulted in valuable insights. The most popular form of early electrification in America was the family Christmas tree, which supposedly embodied American cultural values; in Denmark the electrified Christmas tree remained unacceptable, almost blasphemous. Why? By restricting his analysis to the 'typical' American scene, Nye misses the opportunity to ask about the sources for such differences and compare his findings with European attitudes to electricity. He does mention some differences, such as the difference in ownership of electrical utilities and the European lead in rural electrification, but stops short of a proper comparative analysis. As demonstrated by Wolfgang Schivelbusch in his *Disenchanted Night: The Industrialization of Light in the 19th Century* (Berkeley: University of California Press, 1988), such an analysis might well have covered different mental pictures of

electricity too, and in this way have added an extra dimension to Nye's conclusions.

Nye's general thesis is that "every new technology is a social construction and the terms of its adoption are culturally determined" (p. 381). But what exactly does it mean that a technology is socially constructed? Nye does not discuss this question explicitly, and his many examples do little to clarify it. His thesis bears some similarity to the presently fashionable 'social constructivist view of technology' (as expounded in W. E. Bijker, T. P. Hughes and T. Pinch, eds., *The Social Construction* of *Technological Systems,* Cambridge, Mass.: MIT Press, 1989), but it is unclear to which extent Nye shares the approach of this school. In most passages the examples seem merely to imply that the ways in which electricity was incorporated into everyday experience, or the specific forms of societal use of electrical technology, were social constructions. If this is what Nye means, his thesis is uncontroversial, if not trivial. As a corollary to the thesis of technology as socially constructed reality, Nye objects to all forms of technological determinism. Technology is not an abstract force with its own logic of development, but a set of technical potentialities parts of which are realized by the decisions made by ordinary people. The average citizen, and not the scientist, engineer or corporate manager, is ultimately the creator of technology by his own (free ?) choice of what technological device to use and how to assign it a meaning. There is in Nye's book a tendency to overestimate the importance of the individual consumer's impact on technology and a general inclination towards voluntarism. In view of the present trend towards global uniformity in technology I find it difficult to accept Nye's position. Technological determinism is not easily exorcized. In general, I miss a clearer and more analytic discussion of some of the key questions of historiography of technology that the book implicitly addresses. *Electrifying America is* an impressive and carefully documented exploration of the average American's cultural and material interaction with electricity over six decades. As I have indicated, it is not without certain methodological weaknesses. These notwithstanding, Nye's work is highly recommendable and deserves a wide readership.

Helge Kragh Roskilde University Center