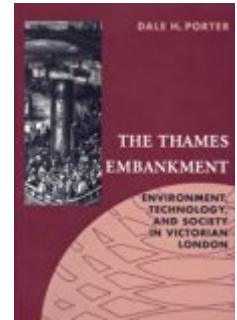


**Dale H. Porter.** *The Thames Embankment. Environment, Technology and Society in Victorian London.* Akron, Oh: University of Akron Press, 1998. xvi + 319 pp. \$49.95, cloth, ISBN 978-1-884836-28-2.



**Reviewed by** Denis Bocquet

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Published in a series concerned with the effects of technology on the environment, this very interesting study is an illustration of how the history of technology and public works can be an introduction to the history of society as a whole. Dale H. Porter has chosen to examine engineering issues in Victorian London from a social point of view, drawing on the example of the embankment of the river Thames. With references to Asa Briggs, Wiebe Bijker, Thomas Hughes, and Trevor Pinch, the author suggests that the interest of studies about technological innovation lies more in the social context than in the technology itself. What makes this book so useful in the perspective of international comparisons is the central place given to the interest groups involved in the construction of the Thames Embankment, and the consideration of technology and public works "as an interface between a community and its environment". (p.XIV)

The author demonstrates the significance of examining the financing of public works and the choice of entrepreneurs, as well as the relationship between environment and society:

"The Thames embankment as a public work project shows how technology mediates between cultural values, social groups, and institutions on the one hand, and the natural environment (as perceived and modified by humans) on the other." (p.8).

Porter also gives great attention to landownership as a fundamental dimension of the study of public works. Public works become then more than the result of a technical process. What Porter tries to describe is the "social construction of technology" (p.10).

Porter perceives the public works on the river and the modernization of the sewers as mechanisms of social control against the fear of disorder and disease, in a Victorian society experiencing strong urban growth, where moral topics and technical improvements were often linked. What is interesting are Porter's reflections on property and public interest, and his descriptions of the numerous rivalries between central government, borough councils, local institutions in general, and residents.

The Thames embankment itself began in 1863 under the supervision of the engineering department of the Metropolitan Board of Works (MBW) representing the City Corporation and all the London borough councils. The aim was to improve navigation, build new docking facilities, and create room for new boulevards between the City and Westminster. The embankment incorporated the final section of the new London Main Drainage system. Porter, describing with great attention the evolution of the project, underlines often that his main interest is elsewhere, in the bureaucratic process and in the action of social groups. In order to show the evolution of the institutional and technical response to the Thames problem, he builds a kind of genealogy of public works along the Thames in London, from the period of Rennie's bridge in 1825.

Porter details the development of London's Main Drainage, beginning with the actions of Edwin Chadwick, head of the Metropolitan Sanitary Commission. Porter describes the debates between Chadwick, who was in favour of a central government participation in the matter, and local powers, in particular the City Corporation, "always jealous of its liberties" (p.58). The author analyses the diversity of the response of each local administration or group. After the 1848-49 cholera epidemic, Chadwick lost charge of the Metropolitan Sanitary Commission, but his ideas were adopted as the basis of the Main Drainage. Porter relates the growing importance of the Institution of Civil Engineers (ICE) in these years. The 1855 Act created the Metropolitan Board of Works (MBW), and in 1859 construction began. The formal opening happened in 1864. Porter details how engineer Balzagette managed to become the central figure in the technical and institutional fields, and how a conjunction of these two fields was necessary for the project to have a chance to succeed:

"The London Main Drainage was designed by the Metropolitan Board of Works in response to conditions defined as a 'pollution problem' ac-

cording to a particular mix of institutional, technical and environmental criteria" (p.76).

For Porter, engineers are expected to translate the problem into "a problem-solving language", which is then used to convince their decision-makers. Porter follows the action of engineers Hall, Balzagette and Thwaites along these lines in dealing with the Thames.

Porter is also interested in showing how the success of one solution cancels any alternative one. The author refuses to merely report these victories. Instead, he underlines the need for an analysis of the failure of former projects, in order to understand better what made the difference for the one that achieved success. The study of Thomas Page's projects in the 1840's and 1850's illustrates this methodological choice. As "Thames embankment engineer" in the Office of Works (OW) (the old institution in charge of the royal domain), Page failed to have his projects accepted because the institution to which he belonged was already outdated, and not able to gain wide enough support. On the contrary, the MBW appears to have been a more rational administrative structure. But Page and the OW do deserve attention to gain a full understanding of the MBW achievements. Porter closes his description of the Embankment construction with a justification of the genealogical method:

"The public discourse which framed the Embankment in the period from about 1800 to 1862 reveals that the definition of a cultural artifact, even one so massive and concrete as the Embankment, is not inherent in its technology, but derives from a sort of negotiation among relevant social groups, which may or may not be resolved" (p. 108).

Because this discourse had a tendency to "subsume and conceal all previous interpretation," the historian has to look back and find not only the origins of the finally applied project, and the reasons for this, but also all the technological and institutional context of other projects, in or-

der to rebuild the whole social context of the decision.

Porter also gives much space to a study of the financial context of public works, as a way to understand better the role of the institutions and private companies involved. He shows too how the MBW was linked to the London engineering community and to the Institution of Civil Engineers, demonstrating how the habit of many engineers to work with some contractors had important effects on the decision-making process and on the shape of the work itself. Despite the resistance of some landowners, the emergence of the MBW has to be seen in the context of the affirmation of a new engineering professionalism. Through the debates about the embankment, Porter is able to show a change in the notion of "public interest."

But this public interest goes through what the author calls "relevant interest groups" -- and here is perhaps the most interesting part of Porter's study.

"The Thames Embankment, like other projects linking technology to the environment, had certain objective features and an internal logic of operation or development, but it was also affected by the perception and behaviour of legal and financial institutions. While engineers tried to shape the Thames Embankment into a manageable construction project, public officials tended to see it as an object of administrative and territorial hegemony, while, Treasury officials, Metropolitan Board of Works accountants, and London bankers and investors developed innovative ways to provide long-term funds for its multiplying functions. Institutional leaders tend to conceptualize technology and the environment in specialized, abstract ways particular to their concerns. Social groups, who are united more by shared experience than by formal precept, think in more restricted and concrete ways, but connect them more directly to their lives" (p.160).

>From the group to the individual, Porter describes the logic at work in the decision-making processes, including the role of family ties. He cites the example of the Cubitt family, with two brothers having an important role in the 1860's.

Porter shows how engineers and contractors are interconnected groups. For him, this can be seen as a

"persistence of tradition in the context of technological and organizational change. They (contractors) belonged to groups that were achieving a new level of social and professional recognition in the metropolis, yet expressed traditional values of apprenticeship, kinship and patronage. The Embankment, street, and sewer contracts stimulated and justified the growth of the MBW as a new metropolitan administrative body, which inevitably changed the financing and organization of public engineering projects, but the MBW itself displayed an uneasy mixture of tradition and innovation, patronage and nascent bureaucracy right through the second half of the nineteenth century" (p.190).

In 1889-89, the MBW was integrated into the London County Council, embodying the innovation in structuring local government in London.

The chapter about the Historical Future is perhaps less convincing. Of course, the "future history" of the embankment had to be made, and especially its impact on the environment and its consequences in the institutional organization of the capital city, but there was no need, perhaps, to make a concept out of it. Porter, however, is very convincing about the perception of the embankment. The choice of not following the chronological course of the events as a frame for reflexion is not always the best way to provide the reader with clear information. More than an easier way to explain things, it can be seen as a greater difficulty that Porter imposed on himself. He fortunately deals very well with it, and gives a chronology in annex.

Apart from giving an interesting and very useful story of the Thames embankment, Porter establishes a method that will allow comparisons. Public works are not studied just in order to know what happened, but how and why it happened. Through public works, the society is the real object of the study, and that's what makes it so important.

Note

[1]. Bijker (Wiebe), Hughes (Thomas), Pinch (Trevor) *The social construction of technological systems: new directions in the sociology and history of technology*, Cambridge (Mass.) : MIT Press, 1987

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