
Robert F. Hopwood
that a railroad extending from Middletown to Oswego would soon starve for lack of traffic, they pushed the line southeastward to Weehawken, New Jersey, in 1880-83. The segment of this extension lying between Cornwall, New York, and Weehawken, however, was immediately sold to the newly completed West Shore, and the Ontario from 1886 onward operated its trains into the Hudson River terminal by trackage rights over the West Shore property. But the entry to Weehawken, established at first without provision for handling freight and passenger traffic across the river to Manhattan, brought little additional nourishment.

The simple truth was that the Ontario belonged to the category of railroads lacking any major function, either as primary or originating carriers uniting important terminals, or as bridge routes uniting trunk lines. Oswego might at one time have suggested some promise as a lake port, but the rise of Rochester and Sodus Point guaranteed that such promise was never to materialize. Moreover, the only rail connection at the western terminal was the Rome, Watertown and Ogdensburg Railroad, another road that extended into a region where there was little traffic potential. What saved the Ontario from early extinction was the lease in 1890 of the Ontario, Carbondale and Scranton Railroad, which gave the New York company an entry into the anthracite fields and which, as a consequence, was for years the only profitable part of the system. Light traffic meant light motive power, and the Ontario relied entirely on small 4-4-0, 2-6-0, and 2-8-0 locomotives until well into the twentieth century. It was destined to be the first of the New York rail family to suffer abandonment in toto.

While the author has kept mathematical and engineering formulation to a minimum, and has relied on a more descriptive, qualitative presentation, the very nature of such material makes for heavy going for the uninitiated.

The novel feature of the B. and O. locomotives was a method of transmitting the armature torque to the axle without gears by means of what later came to be called a quill drive. In this technique the hollow drumlike armature surrounds a cylindrical sleeve known as a quill that is fitted in turn around the driving-wheel axle but is not in contact with it. At each end of the quill a plate is fixed from which projecting pins are inserted into matching openings in the solid hub of the driving wheels. The armature thus rotates the quill, and the plate at each end drives the wheels. The aim in using this driving technique which eventually became the common form for heavy-duty service, has always been to protect the armature from damage arising from the shocks caused by uneven track, but this can be fully assured only by a liberal use of cushioning gaskets and by suspending the entire motor and quill assembly from springs mounted on a framework lying in a place immediately inside the inner faces of the driving wheel. It was all an expensive protective as well as an operating device.

The range, grasp and achievement of this book is best revealed in Chapter 7, "The Pennsylvania Station and the New Civic Order." While the necessary data and technical analysis are still available, the author as engineer tends to fade into the background while the author as historian becomes much more evident. The reader is made aware of the monumental complexities of New York's transportation network, and of the interdependent nature of the entire metropolitan region. By 1900 when planning for the new terminal got underway, Manhattan still relied on some forty different ferry systems to deliver 625,000 persons every working day from the outlying districts. The problem faced by planners and architects as they struggled to co-ordinate the diverse needs of railways, subways, streetcar lines, commuters, and city residents are all clearly developed. Similarly the achievement of the architectural firm of McKim, Mead and White in creating a station that was simultaneously noble, graceful, and functional is also done skillfully.

In short this is a valuable book. If you have a background in electrical or mechanical engineering, appreciate the nature of railway technology in the late nineteenth and early twentieth century, and are reasonably familiar with the network of cities in the New York, New Jersey, Pennsylvania area, you can plunge directly in and get a great deal from it. But if you lack this background and training, you will probably treat this book as an encyclopedia to be consulted on a specific topic. It is undoubtedly a major scholarly achievement and will be cited by many American urban historians, but I am afraid that few will read it from cover to cover.

Norbert MacDonald
Department of History
University of British Columbia


In this fine book, C. R. Friedrichs, an Associate Professor of History at U.B.C., examines Nordlingen's transition from a mediaeval society toward a modern outlook and social structure. He finds in this northern Bavarian town of about 8,000 inhabitants several broad, interrelated developments: the breakdown of an urban monopoly on industrial production, the growth of entrepreneurial capitalism, the decline of the traditional craft system based on independent masters, and the loss of political and social status by the artisans. No surprise, this. But as one would expect from an author who acknowledges Pierre Goubert as his methodological inspiration, the value of the book is not so much in its overall conclusions but in what the author uncovers along the way.

The recovery and skillful use of statistical data is the trade mark of exponents of histoire totale. Readers of this journal may be astounded at the character and volume of evidence at Friedrichs' disposal. In the seventeenth-century towns, the public and private lives of a citizen virtually coincided. To become and remain a citizen, one had to submit to the prying eyes of church and government officials bent on monitoring individuals "for the good of the whole." One consequence of this "totalitarian" society has been a remarkable residue of documents: namely, detailed records of the wealth of individuals gathered by municipal authorities compelled to squeeze out of the populace the funds to "buy" local autonomy in an era when war, rather than peace, tended to be the norm; and council, court and parish records which reveal the mechanics of social control in times when the threat from outside the walls of the town was so great that deviations within could not be permitted. So complete is the public record that Friedrichs is able to sketch a reasonable por-
trait of the leading family of entrepreneurs in Nördlingen without drawing upon private papers or, as one could later, newspapers.

Friedrichs uses this material very well indeed. It takes considerable patience, training, and intelligence to exploit such sources as local tax registers, which often tend to have been idiosyncratically administered by successive generations of clerks. For the benefit of his readers he presents the data base for his analysis in twenty-two tables, twenty-three figures, and seven appendices. As he elaborates his theme of the influence of alternating periods of war and peace on the modernization of Nördlingen, he presents clearly and interestingly a wide range of significant facts, interpretations, causal patterns and structural-functional relationships, many of which tend to disturb some of our conventional wisdom about this period. His analysis, for example, of the seventeenth-century parallel rise of the professions, the increase of the municipal debt, the decline in the numbers of merchants, and the rise to predominance of one family of entrepreneurs is very suggestive and should certainly spark debate and further research.

But for all the considerable virtues of this book, has the author achieved his goal of writing a "total history" of a community? From where I stand as a specialist in the local history of early twentieth-century Germany — a position quite remote from that of Friedrichs — I think not. For one thing, his proof is based on deductions drawn from the juxtaposition of various quantifiable trends. Thus in the example above of the rise of the professions, he shows that several trends coincide on a temporal scale and in effect suggests that there must have been a causal relationship. The likelihood that such was the case is high, but without other kinds of evidence his case is circumstantial. Secondly, while Friedrichs' conjunctural approach advances one considerably toward understanding the objective situations in Nördlingen and to a degree enables an inarticulate society to "speak to us," he has done little to recreate the subjective dimension of local life. Surely, the burghers of Nördlingen wore cultural lenses (or cognitive maps), which helped them to interpret and code contemporary events and which directed their behavioural responses. Aside from a cursory treatment of paternalism and a weak chapter on the church and schools (which focuses on structure rather than evidence related to Weltanschauung), the author neglects the cultural dimension of local life. In effect, he is trying to explain how an emerging new reality broke down traditional society without examining what the tradition or modernity meant to the townsmen. In part, this criticism represents my personal preference for a different kind of history than that practiced by the author. Still, even on his own terms, Friedrichs falls somewhat short of his goal. For his analysis does not (indeed it cannot, because the sources do not exist) take into account local inhabitants who were not citizens. He neither knows how many non-citizens there were — although from his partial figures it seems that on occasion there were at least as many non-citizens as citizens — nor anything about their condition or ambitions, nor whether they also "developed" over the time span covered. This gap, moreover, suggests that the basis for his analysis of even the Bürgertum may be a bit soft. As the axiom goes, the character of the "unhistorical" sector of society influences in countless ways the development of those sectors visible to the historian, even if the former group does not leave behind quantifiable traces. In short, although the author has written an admirable book, his portrait of the society of Nördlingen is partial, not total.

Robert F. Hopwood
Department of History
Queen's University