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The Pipe-Bound City

Jonas Hallström, *Constructing a Pipe-Bound City. A History of Water Supply, Sewerage, and Excreta Removal in Norrköping and Linköping, Sweden, 1860–1910*, Diss, Linköping Studies in Arts and Sciences, Linköping 2002. 362 s.

Content

This is a very fine piece of work, well-documented, well-argued, and well-written. It is situated within several fields of study: urban history, the history of technology, public health history, and environmental history. Recently, works of this type have been regarded as being part of the emerging "Infrastructure School" of History with representative scholars in Europe, the United States, and elsewhere.

The study focuses on two case study cities – Norrköping and Linköping, Sweden – in the period 1860–1910, when they both began the process of modernization. The dissertation is based on impressive primary sources, including city council minutes, the minutes of the Financial Department (Norrköping), minutes of the Drafting Committee (Linköping), minutes of the Council of Magistrates (Linköping), annual reports of the Waterworks Board (Norrköping), minutes of the Water Company (Linköping), minutes of the boards of health, newspapers, maps and plans, statistical data, and substantial secondary material.

At the heart of the study is the introduction and expansion of water, sewerage, and excreta collection programs in a burgeoning industrial city (Norrköping) and a commercial, educational, and ecclesiastical center (Linköping). The dissertation essentially questions the functionalist perspective of service delivery, that is, that municipal services appear when needed or when population growth accelerates rapidly. This approach, of course, does not take into account choices to be made by civic leaders and competing interest for such services.

In what is a largely unexplored area of Swedish history, Jonas Hallström poses several questions:

1. Why and how were piped water supply and sewerage discussed, planned, constructed, and technically extended in the two cities? (Part I: Technology and Organization)
2. Why and how did actor-networks extend—or not extend—these systems geographically? (Part II: Geography)
3. Why and how was the function of sewerage and water supply extended and used for excreta collection and to keep the cities clean? (Part III: Function)

The primary methodology used to address these questions is *actor-network theory*. This is used in order to understand the wielding of power and the nature of choice in applying – or not applying – new network technologies, e.g., water supply and sewerage. The theory employs a network metaphor to identify participants in decision making (“actants” = human and non-human participants), that is, how does power work in practice and how is it used in relation to various actors (“translation”)?

A powerful actor, in essence, can translate the interests of others into his own interests. Of course, technology and technological innovation in this scenario is still negotiable, but not deterministic. Actors enlist ideology – in essence, a justification – develop power sources, and demonstrate interests. They can also be evaluated in terms of the actor-network’s durability.

In studying the various sanitary services in Norrköping and Linköping, Hallström comes to the following sets of conclusions:

1. The period 1860–1910 saw improved water supply, sanitation, and overall better environmental conditions in both cities.
2. Two types of actor-networks were in operation but not necessarily opposed to one another:
 - a. an economic kind of network focusing on the financial side of the issue
 - b. a public health and humanitarian actor-network dealing with non-monetary issues
3. Local actor-networks determined urban infrastructure development. Bourgeois and aristocratic/bourgeois actor-networks in both cities saw piped water as attractive for fire protection, various practical uses, and good health, which all translated into city pride. Sewerage was more problematic, since its development was primarily influenced by epidemics.
4. There was little or no resistance to water-supply and sewerage projects in either city because of financially and politically powerful leaders.
5. The extension of services to suburbs was another matter, however. In Norrköping there was resistance by the Waterworks Board to extensions into the northern suburbs. In Linköping the actor-network that promoted public health and humanitarian interests encouraged extensions into the suburbs, with the exception of shanty towns and northern suburbs outside the city borders.
6. Excreta handling differed in the two cities. There were more water closets in Norrköping due in part to the support of building owners, and less attention to municipal excreta management. In Linköping there were fewer water closets in the early years especially. Public-health interests opposed the interest of building owners, and thus promoted a successful excreta-management program.

Hallström’s specific conclusions are quite persuasive with respect to conditions in Norrköping and Linköping in the late-nineteenth and early-twentieth centuries. However, some of the points deserve further clarification.

Critical Remarks

In the Introduction:

While the dissertation effectively places the cities within the context of Swedish and European urbanization, it might well have discussed in more detail the degree to which urbanization and industrialization co-evolved in Europe to make clearer the nature of urban modernization in the two cities.

Also, is the actor-network methodology too mechanistic? Is it too rational for explaining choices made or is it simply a version of “interest group politics” that has been discussed in numerous studies over the years?

In Part I: Technology and Organization

More clarity could have been given concerning fire protection. Whose interests did it best serve? In addition, the timing of sewerage development is an important issue for cities throughout the world. Possibly more attention could have been given to financial costs and benefits (rates of return, for example) in providing water service and sewerage service. Also, was there any debate over the installation of separate or combined sewers?

A strong and unique point made in this section concerns the role of rivers. In the two cities, the sanitary systems were designed in many cases to leave rivers to other uses. Was this common in Sweden or in Europe in general? Less likely in Europe, one would imagine.

In Part II: Geography

The nature of suburbs in Sweden, and Europe in general, is important to this study. They appear to be viewed in the period under discussion as not necessarily areas of bourgeois – or middle-class – outward expansion per se. They seem to be treated as areas *outside* the polis. Thus questions of economics appear subservient to other issues, seemingly more cultural or social in nature. The study points to a powerful hold of the central city (central place) over the acquisition and retention of services at the expense of the suburbs. More attention to the nature of suburbs would enhance the very intriguing discussion of this central issue in the dissertation. Also, to what extent were suburbs capable of solving their own service needs?

The study presents the public-health argument as essentially “humanitarian” rather than as a practical matter of well-being and survival. Once again, a deeper discussion of this issue might enlighten the perception of suburbs in both cities and the nature of the actor-network groups.

Part III: Function

There is an overall need to distinguish more carefully between theories of disease transmission, namely the miasmatic theory and the bacteriological theory. In doing so, this section might be able to explain more effectively why water closets were perceived as outside the control of city authorities in managing waste and what potential environmental risks were involved in employing them. This discussion would help explain more fully why building owners supported water closet use.

Conclusion

Some additional attention might have been given to explain what *economic* issues incorporated. Can economic and public health concerns always be clearly separated as the actor-network approach seems to suggest? What is the line between public and private interests in determining economic value?

In addition, technical choices could have been explained more fully. What was the role of engineers in decision making? What was the role of promoters of new technologies?

That *Constructing a Pipe-Bound City* raises so many important questions suggests its value to the prevailing literature of urban environmental history. It not only provides a superb narrative of service development in Norrköping and Linköping, but enlightens the broader discussion of how cities coped with health and environmental problems in the late-nineteenth and early-twentieth centuries in Sweden and Europe in general. It provides a useful model for other similar studies and raises important questions worth considering for any city.

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