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Punched Card Systems and the Early Information Explosion, 1880-1945 By Lars Heide. (Baltimore: Johns Hopkins University Press, 2009. 369 p. ISBN 978-0-8018-9143-4 65$ US)

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Citer ce compte rendu

Punched Card Systems and the Early Information Explosion, 1880-1945
By Lars Heide. (Baltimore: Johns Hopkins University Press, 2009. 369 p.
ISBN 978-0-8018-9143-4 65$ US).

From the 1960s to the 1980s it was said that "nobody ever got fired for
buying IBM." Indeed, for much of the 20th century, IBM was considered a
safe pick for any purchasing agent worried they might have to justify
themselves to management down the line. Rather than debate technical
merits or try to cut corners in a quest for cost savings, alternatives could be
discarded and choices could be reduced, thanks to IBM's recognized brand
and exceedingly competent sales force (and maybe the calm blue colour of
many IBM products, said to have inspired the nickname "Big Blue").

  The issue of choice plays an integral part of Lars Heide's new book,
Punched Card Systems and the Early Information Explosion, 1880-1945.
At its core, the book is an examination of the relationship between
punched card technology and social organizations and forces. Heide
explicitly applies the lens of Trevor Pinch and Wiebe Bijker's social
construction of technology, following punched card technology through
four succeeding technological closures and re-openings from the late 19th
century to the mid 20th century in the United States and parts of Europe.
He explores the choices of various individuals and organizations and their
motivations, the alternative and eventually discarded technologies, the
impact of various patent laws and nationalist policies, and the consequen-
ces of technological closure. His well-developed conclusion is quite clear
that "punched cards did not shape society" although stretches of
technological stability facilitated the increased collection and analysis of
information "that became essential for societal changes between the late
nineteenth century and the Second World War" (p. 267).

  Heide's study begins, logically, with the relatively well known story of
Herman Hollerith's mechanization of the 1890 United States Census via
punched cards and tabulators, arguably the first major use of this
technology for information management. Heide adds social and political
context to explain how this census differed from that of other years and in
nations, and how Hollerith operated within a particular network of
statisticians. His technology was shaped to meet the needs of U.S. Census,
then reshaped at the dawn of the 20th century when he sought new users
and new users sought out his machines. New applications and clients drove
important technological innovations but also standardization. This was a
gradual process, a "dynamic innovation of cards" influenced by many
factors and choices, and not a grand, coherent plan by Hollerith (p. 61).

  Success provoked challenges to Hollerith's monopoly, from within the
census statistics network and without. The Census Bureau itself established

its own machine shop in 1905 to clone Hollerith's tabulators more cheaply than he would lease them. James Powers left the Census Bureau in 1911 to establish the Powers Accounting Machine Company, intending to capture newer bookkeeping users (hence the word "accounting"). A third competitor, John Royden Pierce, was a census outsider and better able to innovate in an evolving market but unable to fully exploit his advantage; eventually he sold his patent rights to Hollerith's Tabulating Machine Company (TMC). After a series of mergers and management changes TMC became International Business Machines in 1924. Through to the early 1930s, this was a period of continued competition with the Powers company, differing technological paths and reopened development characterized by gradual innovation directed towards "identifying and interpreting a new prime application in bookkeeping" (p.105).

The second half of the book shifts to provide a comparison to punched card technology and usage patterns in Europe, focusing primarily on England, France and Germany. Hollerith was unsuccessful in his late 19th century attempts to land foreign census contracts. This failure was a result of existing census structures which had no need for mechanization and, it must be said, poor sales practices. However, in the 20th century, IBM and the Powers company made European inroads via international subsidiaries and independent sales agents. Heide shows how, despite largely common starting points, different technologies and uses evolved in different countries. Among many reasons, he cites: local conditions and variations in business practices, preferences and leadership; different patent laws and government regulations; and England's non-decimal pound, shilling and pence which required special hardware. Yet, as in the U.S., punched cards gradually moved from specialized census applications to more general statistics, and to bookkeeping uses.

Heide ends his book with a chapter: "Keeping Tabs on Society," a comparative look at how punched cards were put to use as population registers in the 1930s and, most notoriously, during World War II. In the latter case, he examines how both the French Vichy and German Nazi governments implemented punched card registers to better track and control their populations. In contrast to Edwin Black's recent argument in IBM and the Holocaust concerning IBM and its German subsidiary, Deutsche Hollerith-Maschinen Gesellschaft (Dehomag), and their complicity regarding Hitler's Final Solution, Heide is more even-handed. A chaotic Nazi organizational structure helped delay a national punched card register until 1943 and, moreover, he points out that simpler index-card based local registers were more than sufficient to identify and segregate Jews and other socially undesirable victims (p.233-248).

A great strength of *Punched-Card Systems* is Heide's thorough and wide-ranging research. Following the notes, he includes an insightful essay on his sources, assessing and highlighting the various practical and theoretical difficulties he encountered among the various corporate, government, museum, patent and private archives.

If there is a weakness to this book, it is found in Heide's overall structure and approach. The choice to study punched cards through the lens of social shaping was a deliberate one, and the author makes excellent and readily apparent use of it as an analytical framework, detailing the closures and re-openings of the technology. His dedication is commendable and highly recommendable for students of social shaping, but it also leads to a few problems. One minor difficulty can be found in the overlapping time-lines of the individual studies. Occasional references to events, artifacts or organizations to be explored in later sections or chapters were confusing and distracting, doubly so for a reader unfamiliar with the material. A second, related problem is that Heide's overall analysis of punched card systems lacks a strong narrative to draw the reader through the text. It is, in some ways, too neutral. Hollerith provides a charismatic figure in the opening chapters, and Heide's investigations of public registers in France and Germany in the seventh chapter are intriguing, but much of the middle ground, despite its analytical strengths, lacks a compelling story. This strikes me as an unfortunate limitation of the social shaping perspective.

Finally, readers of Scientia Canadensis should note that Canada is mentioned just once, and as a passive recipient of punched card technology. I don't see this as a flaw, but rather an opportunity for another scholar to fill the gap, using Heide as a model and comparative source. Furthermore, the second half of the book provides a provoking discussion of the role of international subsidiaries and raises the issue of national styles of technology, both topics of frequent interest to Canadian scholars.

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Television: The Life Story of a Technology. **By Alexander B. Magoun.** (Baltimore: Johns Hopkins University Press, 2009. xviii + 209 p., ill., bibl., gloss., index. ISBN 978-0-8018-9072-7 $25).

What kind of life has television experienced since its genesis? Casual observers may argue when it comes to the life story of television, television represents The Life of Reilly, It's A Wonderful Life, or for the most enthusiastic TV viewers, The Life of the Party. However, Alex