Chapter 2
The Role of Technology in the Historical Development of Libraries Pre-Automation

ABSTRACT

This chapter examines the role of five different types of technology that have impacted libraries pre-automation: card catalogue, the telegraph and telephone, the phonograph and other audio visual technologies, microfilm, and punched cards. These technologies were used to varying degrees by librarians to improve organizational efficiencies and provide services to patrons. Only one of these technologies is specific to libraries – the card catalogue. Its development is an important indicator for understanding what it was past librarians valued. In a similar manner, how the remaining technologies were incorporated, or not incorporated as the case may be, into library services provides insight into what librarians felt was most important in providing services to patrons.

INTRODUCTION

Libraries, like all organizations throughout the 19th and 20th centuries, have been greatly impacted by technological developments. As members of these organizations, librarians and their professional identities have been equally affected by technological changes and challenges. The previous chapter briefly outlined the technological changes experienced by society at large in the recent past. This chapter will take a closer look at some of the technologies that directly impacted libraries – up to the staggering changes brought about by computers and the switch to automated library systems. Tykoson (2006/2007) perhaps said it best: “When we think of innovation in libraries, we tend to think about all of the brand-new technologies that have been developed over the past three decades” (p. 42), but innovation is not a new experience for libraries and librar-

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ians. As society experienced the changes brought about by the Industrial Revolution, libraries were experiencing their own dramatic and influential technological changes, as well as reacting to larger societal changes. Like today, librarians had varying reactions to the changes being brought about by the technology of the times. Therefore, in addition to exploring the influence of past technologies, this chapter will also explore how contemporary librarians reacted to the challenges and opportunities these technologies created.

Tyckoson (2006/2007) produced a list of what, in his opinion, were the top 10 innovations in library history. He started with a very early innovation – the printing press – and ended with data processing. Tyckoson identified innovations that may or may not be “technologies” but have nonetheless been highly influential in the formation of the modern library. These included the dictionary catalogue, catalogue cards, Poole’s Index to Periodicals, circulation, classification systems, the telephone, microfilm and the photocopier. Using this list as inspiration, this chapter will explore the impact and reaction to the card catalogue, the telegraph and telephone, the phonograph and other audio visual technologies, microfilm, and the start of automation – punched cards. These innovations and technologies are not intended to exhaust the list of all technologically informed changes impacting libraries in the 19th and early 20th centuries. Instead, they are exemplars of the technological changes happening during the period. In addition, only one of these technologies can be considered unique to libraries – the card catalogue. Librarians often repurpose technologies for their own professional purposes. How librarians repurposed these technologies provides insight into how past librarians conceived of their professional identities.

**CARD CATALOGUE**

Fiske’s “A Librarian’s Work” (2006) is an early example of a practising librarian attempting to explain to a non-librarian audience what it is librarians do. Written in 1876 for *The Atlantic Monthly*, Fiske opens his article with a statement that might feel familiar to some modern librarians:

*I am frequently asked what in the world a librarian can find to do with his time, or am perhaps congratulated on my connection with Harvard College Library, on the ground that ‘being virtually a sinecure office (!) it must leave so much leisure for private study and work of a literary sort.’ Those who put such questions, or offer such congratulations, are naturally astonished when told that the library affords enough work to employ all my own time, as well as that of twenty assistants; and astonishment is apt to rise to bewilderment when it is added that seventeen of these assistants are occupied chiefly with ‘cataloguing.’* (Fiske, 2006, p. 17)

Although a librarian in the 21st century might end a similar statement with “astonishment is apt to rise to bewilderment when it is added that the majority of a library worker’s time is occupied chiefly with technology,” the sentiment that a librarian’s work is misunderstood is not a new one.

Arguably the greatest innovation in the history of libraries is cataloguing. The dictionary catalogue was created for the Bodleian Library at Oxford University in 1620 and card cataloging records were first introduced by the Bibliothèque Nationale de France in the 1790s. Card catalogues were an improvement on the dictionary catalogue as they allowed the huge influx of books resulting from government appropriations during the French Revolution to be quickly and flexibly organized (Tyckoson, 2006/2007). The dictionary catalogue listed books alphabetically by title or author and were difficult to update with the records of new acquisitions. John Fiske aptly described the limits of this kind of cataloguing in 1876:

*Here is the essential vice of printed catalogues. Where the number of books is fixed once and for all – as in the case of a private library, the owner*