Adam Crymble. *Technology and the Historian: Transformations in the Digital Age.* Topics in the Digital Humanities Series. Urbana: University of Illinois Press, 2021. 272 pp. $110.00, cloth, ISBN 978-0-252-04371-0.

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Technology and the Historian: Transformations in the Digital Age is a history of digital work within academic historical practice in Britain, Canada, and the United States during the past fifty years. Adam Crymble proposes his history as a solution to a contemporary problem that most historians can relate to: what exactly *is* digital history? Is it a subset of the larger category of digital humanities (and if so, what is digital humanities)? Does it necessarily imply a social sciences orientation and quantitative methods? Rather than generate a definition for this diverse and quickly changing field, Crymble offers an intellectual genealogy. Tracing the disparate yet intertwining threads of digital practices employed by historians in the past fifty years, he argues, may offer definitional clarity, or at least a common vocabulary, to the field as it moves forward.

Offering a history rather than defining a term is an impulse familiar to any historian. This book is an excellent synthesis of the field's history for any historical practitioner who works with digital methods. In 2022, this is every historian, now that digital course management systems, library catalogs, and publishing platforms are ubiquitous and the COVID-19 pandemic forced nearly all classes online. Crymble himself is not only a historian but a digital history practitioner. He is an editor of *Programming Historian*, a digital resource for historians teaching themselves and others digital tools. Well versed in the vernacular conventions of the field as well as informed by extensive archival research, *Technology and the Historian* capably synthesizes major changes in the field.

Technology and the Historian is divided into five chapters, each of which tackle the digital components of five areas of historical practice, including "research, collection management, teaching, learning, and communicating" (p. 165). In the first chapter, Crymble charts the origins of digital history research in both quantitative social-science fields that deployed computers to make statistical calculations and the humanities computing movement in literary studies and linguistics, which harnessed computing power to analyze and transcribe large volumes of text. While digital historians squabble over which of these two models spawned the genre, Crymble argues that both were instrumental.

In chapter 2, Crymble addresses the dramatic changes in archival research and practice brought by the era of "mass digitization" (p. 47). Not only

did historians have huge and hugely accessible archives to work with, but many also began to create archives assembled from digital materials. These archival changes brought about new partnerships and new domains of historical work, especially in the public sphere. Chapter 3 shows how changes in research methods and archival sources spurred pedagogical innovations as well. Several waves of pedagogical trends, beginning in the 1990s, encompassed courses ranging from computation to student blogging to data mining tools. The tension shot through digital history teaching, which remains unresolved, has been between teaching skills and teaching historical content in digital history classes. Can students learn to code and learn the Haitian Revolution in the same course?

How are professors expected to learn and then teach these digital skills? Chapter 4 describes what Crymble calls the "invisible college," the diffuse online resources, workshops, and communities that digital historians have used to teach themselves digital tools. As he points out, these are wonderful resources, but they are "evidence of a failure of higher education to adapt quickly enough to the ways that changes in technology were affecting the discipline" (p. 136). Instead of institutionalizing digital training in universities, digital historians have become accustomed to seeking their own resources on their own time. Historians in the digital age also found time to blog. Chapter 5 argues that historical blogging arose as a way for scholars—many of them contingent, and many of them women—to explore research, write in different modes for different audiences, and critique their academic surroundings. Historical blogging subverted traditional channels of research dissemination, holding the potential to disrupt long-held hierarchies. But ultimately, blogs became subsumed into institutional structures and largely, Crymble argues, lost their passionate tone and interest.

Finally, how can the field move forward with more clarity and precision? Digital history has always been a cluster of diverse practices coming from different intellectual origins and realized in different ways. Thus, he argues, it is no longer adequate for practitioners to describe themselves as digital historians, as the term is essentially a "meaningless descriptor" (p. 165). Instead, historians should describe what they do specifically: for example, as a historian who uses statistical software to write social history from below, or a professor who uses 3-D modeling to better teach material culture to undergraduates. To support this call for specificity, Crymble includes a glossary, which includes such terms as "cliometrics," "data cleaning," "cocreation," "reflective practice," and "user studies." All historians will likely find this useful. As Crymble points out numerous times, writing about digital work is daunting. New technologies are adopted and others are out of date by the time a physical book goes to press. I thought about the revolution in digital pedagogy wrought by the COVID-19 pandemic, which brought professors—willing and unwilling—into the digital classroom, after Crymble's work went to press. But it is not hard to imagine how such a chapter could easily fit in, aligned with the larger framing of digital history as driven by major cultural changes as much as historian-led intellectual movements.

Technology and the Historian touches lightly on several important issues in the field that deserve more attention. Crymble might have engaged at greater length with the other major change that has defined the history profession in the last forty years: the decline of tenure-track employment. While he does touch on problems of training in chapter 4 and the contingent status of many bloggers in chapter 5, there are more connections and insights to be made here. Are digital historians better positioned for alt-ac jobs in a world where tenure-track jobs are nearly impossible to obtain? Is the expectation that digital

practitioners train themselves part of a larger trend in adjunctification in general?

While the glossary defines even such slippery terms as "digital," the word "technology" is conspicuously absent. Elsewhere in the text, it seems to stand in for "computers" or "digital tools and environments" (p. 9). At times, technology is treated as a discrete entity that acts on historical practice or is harnessed by historians as a tool. Chapter content conveys the complexity of the relationships with excellent nuance. But historians of science and technology, as well as science and technology studies scholars, may wish for a more robust theoretical discussion, drawing on the ample scholarship that tackles this slippery problem.

Crymble's discussion of algorithms, too, left me with more questions. The glossary describes "algorithmic thinking" as an approach to problem solving and credits it as an intellectual mode of thinking that spurred the rise of digital history (pp. 175, 18). But treating algorithms as neutral tools does not address the pervasive role they play in the life of most humans today. Massimo Mazzotti has argued that "algorithms create the conditions for our encounter with social reality," defining the information we encounter in a world where there are more texts digitized than we could ever read.[1] As Safiya Umoja Noble demonstrates in *Algorithms of Oppression: How Search Engines Reinforce Racism* (2018), the search engine monopolies of a few companies have created an information landscape that explicitly privileges certain narratives and identities. In chapter 2, Crymble discusses the role of private enterprise in mass digitization efforts, from Ancestry.com to the Google Books project. But the role of private companies and their deployment of algorithms in the information infrastructure is far vaster and places historians in a position of much less agency. How have search engines changed how historians do research, not necessarily for the better? How has

the digital world created new kinds of biases and constraints on intellectual inquiry?

Note

[1]. Massimo Mazzotti, "Algorithmic Life," *Los Angeles Review of Books*, January 22, 2017, https://lareviewofbooks.org/article/algorithmic-life/.

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