Social Reading and Technology Design

We are only beginning to discover how much the humanities have to contribute to the kind of world-building in which computer science, with its push to develop new tools and platforms, is now engaged. To begin with, the cultural record that humanists study abounds with forms of theoretical and phenomenological knowledge on which computational methods have, thus far, little purchase. Perhaps more importantly, humanists have the benefit of a millennia-long disciplinary bias toward human-centered design. An example of this advantage is the current work surrounding the design of digital tools to support the activity of reading.

In recent years, the development of tools to support digital annotation has been the subject of extensive research and development. Some research groups are building heavily annotated digital versions of maps, manuscripts, and specimens; others are focusing on developing tools that enable users to annotate new media formats, such as audio files or videos of class lectures. For example, the University of Maryland has teamed with Alexander Street Press to tailor a video-annotation toolkit for scholars. Johns Hopkins University is working with the French National Library on a complete digital library of existing manuscripts of the Roman de la Rose, annotated with the kind of scholarly commentary that normally could not appear in a facsimile. At Harvard University, the Domeo project aims to reinvent scientific note-taking for the age of big data, assembling a “knowledge base” of claims about a given subject (e.g., the pathology of Alzheimer’s disease) from across the scientific literature. Another Harvard project, Filtered Push, aims to create an authoritative digital collection of zoological specimens. Both of these projects are curated through crowdsourced annotation by a user base of scientists. MIT’s Annotation Studio, a web-based application that enables users to create, save, and share annotations to digital texts, recently received renewed funding from the NEH. The application was designed to help train readers in the techniques of close reading, textual analysis, and locating and marking evidence in texts, with the aim of supporting instructors and students in the humanities.

What these researchers have discovered anew is the value of humanistic perspectives to digital development and design. R&D among the app-building class has often focused on the tastes of the builders or the raw capabilities of various technologies. Yet a historian’s look back would suggest that devices intended to support the work of reading most often take shape from the features of the readers themselves. For example, during the Middle Ages, when bookmaking was expensive and books were sometimes literally chained to desks, annotation often served as a tool to support memorization. A common sign that a reader of the period had carefully attended to a text is a tidy string of summaries along the margins; thick annotations often signal a book that readers judged worthy of study and commitment to memory. After the rise of universities starting in the twelfth century, the largest customer base for booksellers changed from religious houses to students, who, unlike monks, had just a few years to master their texts. For the first time, the world of books saw the regular use of special devices for guiding the reader through a wilderness of pages: subject indexes, concordances, modern library catalogues, and starting systematically in the thirteenth century, the division of texts into books and chapters. “By the fifteenth century,” says Malcolm Parkes, “the reader had come to expect some of these features, and if they had not been supplied by scribe or rubricator, the reader himself supplied the ones he wanted on the pages of his working copy.”

New patterns of annotation arose in the early decades after the rise of print. In a study of the marginalia in English books during the 15th through the 18th centuries, William Sherman found an extraordinary range in the kinds of information that their owners jotted in the pages, often having no relation to the printed contents: “The blank spaces of Renaissance books were used not just to record comments on the text but penmanship exercises, prayers, recipes, popular poetry, drafts of letters, mathematical calculations, shopping lists, and other glimpses of the world in which they circulated.” This practice reflects not the new technology but, rather, a new class of reader for whom paper was expensive. Markings also record the intimate social world of readers: the playful tradition of writing a “curse” on the title page as a ward against negligent borrowers; the inscriptions in books received as gifts; or the family records stored in books of prayer. The eighteenth century, an era in which the expansion of the public sphere furnished new models for the relationship between writers and readers, once again saw changes in the ways readers engaged with texts. Referring to marginalia from the era, Steven Zwicker shows how readers brought to their armchairs the “habits of commentary and contest” attending the partisan theater of public life.
The leisure reading that rose to ascendency starting around the same time has left predictably little marginalia. Historians describe this as “extensive reading”—that is, reading widely, lightly, and for news or pleasure—in contrast to the previous era of “intensive reading,” which involved the careful study of a smaller corpus of texts and which naturally produced more marginal notes. Even so, through the twentieth and now the twenty-first century, annotation has remained a conventional form of interaction with texts, especially during a reader’s college years.

The history I have outlined here is neither formal nor exhaustive, but it does suggest that technological change has had, by itself, remarkably little effect on major shifts in annotation—that is, in the models and devices that readers use to organize the information in texts. Instead, these shifts correlate with changes in the configuration of reading communities such as the rise of college/university readers and the rise in the number of readers following the spread of print. Likewise, since about 2007, industry and academia have witnessed an explosion of interest in developing digital annotation tools. But since the web has been around since 1993, the driving factor behind this interest cannot have been the digital turn by itself. Rob Sanderson, the co-chair of W3C’s Open Annotation Community Group, a networking group for researchers working on digital annotation projects, has suggested some technological factors that may have played a role in this little renaissance—for instance, improvements in bandwidth and scanning technology have made it possible to digitize materials worth annotating. However, he claims that the most salient change is the rise of Web 2.0, a major reconfiguration of our reading community.

In response to readers’ demand for a read-write web, tool developers created a new class of technologies that transformed the web from a largely read-only platform to a read-write platform, allowing readers to comment, share, repost, and remix content. Changes in reading culture drive changes in the devices we use to support reading.

Tool designers who want to intervene in the new world of letters should look first to the social history, and to the social future, of reading. The web has made newly visible the diversity of interest groups among the general population of readers; it has also made the members of those groups more visible to each other, enabling them to define themselves and their needs in ways that perhaps change their behavior. The new and changed audiences that have emerged in the digital domain include data miners, professional readers who read scientific papers for industry, scientists on the semantic web, wiki contributors who treat their activity as leisure, and high school and college/university teachers who want to use digital tools to engage students or experiment with flipped-classroom pedagogy. Thus far, we know less about those audiences than we should, and as a result, we lack information about the material practices that users may want to bring to (and take from) new media. If we are to build a digital future for traditional humanistic activity, we should equip ourselves to bring humanistic knowledge into the tool-development process.

Notes
1. Ethan Zuckerman, communication with the author, March 16, 2015.
6. Interview with Rob Sanderson, September 2013.

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