

Technology Criticism for Technophiles

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Attempts to assess the influence of the Web upon our intellectual and imaginative capacities have resulted in a steady stream of commentary and debate. Although the subject has been approached from a great variety of perspectives, the analyses often share a lexicon of transformation, of upheaval, of the unprecedented or the inexorable (e.g., Benkler, 2007; Keen, 2008; Shirky, 2010). This can be true whether the arguments are of the utopian or the apocalyptic variety, and whether the commentators speak in the voice of Pollyanna or Cassandra. Although certain aspects of Web-driven change may in fact be genuinely novel (the pace of its relatively widespread adoption, for example), some seasoned voices are beginning to conclude that many of the more radical claims made for the Web have been overblown, and called for more careful consideration of both its limitations and possibilities (Zuckerman, 2010; Lanier, 2010).

One characteristic often shared by observers is an assumption of “information overload.” This assumption is enshrined in, among other places, the ACRL’s Information Literacy Competency Standards for Higher Education, which bases its guidelines on the presupposition of “rapid technological change and proliferating information resources” (ACRL, 2000). The ACRL standards are part of much broader trend. Both the diagnosis (e.g., “information overload”) and the treatment (e.g., information literacy/IL) construe the challenges of technology and learning as essentially new, and the solutions as primarily technological (Grafstein, 2007). From an information literacy (IL) perspective, this has typically been framed as a technical problem of “tools and skills” rather than an epistemological or social problem of reading and interpretation (Hrycaj, 2006, p. 530).

In the past several years a growing body of research has attempted to examine the deeper implications of the Web for librarianship, particularly IL. “We in the [LIS] field are struggling right now in our IL efforts with the central issue of bibliographic instruction,” argues Georgetown University Librarian John Buschman (2009), including “how to impart a meaningful foundation to students quickly so they can self-monitor, self-edit, self-critique, and learn in a critical-reflexive way as they gather research and information.” Buschman warns of “a bandwagon frenzy that has much the air of the original (and ongoing) euphoria in the [LIS] profession about ‘advanced’ technologies” (p. 111). Librarianship’s long heritage, however, provides critical traditions that, while avoiding mere reliance on past practices for their own sake, are capable of keeping librarians’ pedagogical effectiveness from being hampered by technology-driven worry or hype.

The End of Reading

Are the Web and its multiplying applications undermining our ability to deal with longer texts, narratives, and arguments, both as individuals and as a society? Or is it more appropriate to think of the present moment as simply another technological and cultural shift, such as was brought about by the codex and the printing press, to which we will inevitably adapt? Nicholas Carr’s recent book, *The Shallows: What the Internet is Doing to Our Brains*, is among the more strident examples of the former perspective. “When we go online,” argues Carr, “we enter an

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environment that promotes cursory reading, hurried and distracted thinking, and superficial learning. It's possible to think deeply while surfing the Net, just as it's possible to think shallowly while reading a book, but that's not the type of thinking [the internet] encourages and rewards" (2010, pp. 115-16). Carr is not alone. He draws on the history of technology and recent research on the neuroscience of reading, as well as on the empirical usability studies of Jakob Nielsen – who, in an often-cited report on how people read Web pages, concluded: "They don't" (Nielsen, 1997). What troubles Carr and other techno-pessimists is not that people scan, but that they seem to *only* scan. "The ability to skim text is every bit as important as the ability to read deeply," he admits. "What is different, and troubling, is that skimming is becoming an end in itself – our preferred way of making sense of all sorts" (Carr, 2010, p. 138).

Others are more sanguine, arguing that technology, if not exactly value-neutral, is best understood as a means to an end or, more pointedly, that hand-wringing such as Carr's is simply an attachment to one particular kind of technology: the printed book. "Gutenberg didn't invent the novel," librarian and author Matthew Battles reminds us, "it took centuries after his time for that kind of reading to seize hold. We can give the Internet a few more years, can't we?" (Battles, 2010). Many, moreover, are seeking to conceptualize and articulate how reading may be changing in a digital environment. Publisher Evan Schnittman has identified what he thinks are three complementary kinds of digital reading: immersive, extractive, and pedagogic. Immersive has been traditionally associated with the detailed, sustained, careful reading of printed texts; extractive is more native to a Web environment, though also common in informational and reference reading, and consists of mining content for known items or prompted by imposed queries; pedagogic seems to be Schnittman's own coinage, and refers to emerging forms of aggregated textbooks, learning objects, and teaching materials which can be used in education (Schnittman, 2010). To these, librarian Lorcan Dempsey has suggested a fourth – interstitial – to describe reading in the short, otherwise unoccupied snatches of time that punctuate daily life, such as riding public transportation (Dempsey, 2010).

The claim that there are various forms of reading is certainly not new. Recall Francis Bacon's encomium that "some books are to be tasted, others to be swallowed, and some few to be chewed and digested: that is, some books are to be read only in parts, others to be read, but not curiously, and some few to be read wholly, and with diligence and attention" (Bacon, 2008, p. 439). For academic librarians in particular, whose work is shaped to uphold the mission of their institutions of higher education, more traditional forms of reading will no doubt continue to play a significant, if not exclusive, role in many disciplines.

Both determinism and utopianism are commonly found in technology writing, within the LIS field and beyond. Librarians, whose primary responsibilities include the application of technologies old and new, will be wary of either of these extremes. Rather, by tradition and training we'll be aware of the inherent limitations and strengths of *any* given tool, and be eager and able to offer insights and practical solutions to the challenges posed by the Web, as well as whatever innovations may come next.

The Art of Librarianship

In her book *Distracted: The Erosion of Attention and the Coming Dark Age*, Maggie Jackson (2007) articulates what many involved in IL have suspected for some time. "In the end, perhaps we are asking too much too quickly of our newest tools," she suggests. "Years of turf wars and [IL] terminology spats have yielded minimal progress" (p. 179). She quotes IL luminaries E. Gordon Gee and Patricia Brievik, who claim that "for over 20 years, campus

projects designed to encourage students to develop a sophisticated understanding of the library and to develop their information skills have met with minimal success.” Jackson also argues that “the [IL] movement largely transfers the battleground of literacy to the unbounded realm of cyberspace, using the very tools that tend to keep us on the surface of the text” (p. 179). Former software designer turned tech-critic Steve Talbott makes a similar point concerning some digital approaches to education. Although “*everyone* disclaims the fact-shoveling model of learning,” he argues, “the unconscious metaphors by which we reveal our real convictions about education revolve more and more around the idea of downloading information or transmitting it from one database to another” (Talbott, 2007, p. viii). At issue is more than simply preferences in terminology; rather, the language we use to imagine, design, deploy, and evaluate our technologies have a powerfully formative role in how those technologies are understood and used. Whether learning is understood to be a long, slow, challenging process or a “data-dump” (to choose two among many possible metaphors) will have real implications in terms of pedagogy and assessment of outcomes. Talbott is one of many to question the widely held assumption that information overload produces a “bottleneck” that better training in technological tools can resolve. Rather, he claims, “the task...is to take the infinitesimal slice of available information that can actually be used...and find some way to bring students into living connection with it” (Talbott, p. viii).

David Golumbia (2009), another former software developer and now Associate Professor of Media Studies at University of Virginia, has critiqued what he calls “the logic of computationalism,” and has raised a series of critical questions of direct importance for librarians:

Our discourse about computing is almost wholly oriented toward technical capability: What can computers do? What more can they do? What operations in our world can they replace or augment? These are vital questions but they seem to stand in for a series of questions that are much more difficult to ask, and whose answers seem much more difficult to envision: *Should computers be used for everything of which they are capable?* Does the bare fact that computers can do something mean that it is better to have that thing done on computers than in the analog world? Does the fact that computers provide us with a significant pleasure of mastery license their use for things we must master? Are there situations and actions in which cultivating mastery might be a detriment, rather than an advantage? (p. 225, emphasis added)

These are precisely the kinds of questions which many librarians do, and which every librarian ought, to be asking, in both strategic and day-to-day contexts. Perhaps one objective for a useful IL program is not only to teach students *how* to use technology, but *when* (or when not) and *why* (or why not). It might also be useful to bear in mind that, although some aspects of LIS work are perhaps justly described as *science*, others, and perhaps particularly matters of teaching and learning, are better understood as *arts* (Shanbhag, 2006). There can be a danger that in IL practice teaching and learning become subservient to the logic of certain technologies and of a “hype cycle” that encourages widespread adoption at the expense of more reflective, purposeful appropriation of available tools.

Conclusion: Living with the Tensions

As Jaron Lanier – virtual reality pioneer, tech-enthusiast, and strident critic of what he sees as the “cybernetic totalism” and technological “lock-in” that has overtaken the previously fecund realm of the internet – has succinctly put it: “Technology criticism shouldn’t be left to the

Luddites” (Lanier, p.14). Lanier’s *You Are Not a Gadget* is a provocative, deeply informed critique of what the author feels are the homogenization and stasis of the internet in the throes of all things “2.0.” First, he persuasively demonstrates that software is not neutral; rather, it contains a host of human assumptions embedded in the code and the design of applications. These non-neutral assumptions, Lanier points out, are often focused merely on short-term priorities. Second, he argues that software is haphazard, and that even the most brilliant designs are substantially accidental, ad hoc, occasional, and limited. In other words, however omniscient and infallible they may seem, our tools are made by people and bear their limitations.

The issue of the non-neutrality and haphazardness of technological tools raises another topic relevant to librarians: the importance of interpretation. One characteristic shared by every discipline without exception is the fact that each is interpretive in some way. It is crucial for IL practitioners to bear this in mind, as it underscores the reality that at the heart of every use of technology there remains a uniquely human capacity (the claims of some AI enthusiasts notwithstanding). A major aim of IL is assisting students to develop strategies of interpretation, and in the present digital age, that calls for criticism not only of the “content,” but of the complex, evolving means by which that content is accessed.

In the early 1980s, Evelyn Geller spoke of three unavoidable dilemmas within librarianship: the tension between populism and elitism, between neutrality and advocacy, and between freedom and censorship. These dilemmas “can never be resolved...[but] inhere in the field – they come with the job” (Pawley, 2003, pp. 427-28). To these could be added a fourth: the tension between support and critique of technology. Acknowledging such a tension might bring it more explicitly to the fore in current conversations, and make approaches to technology within librarianship more meaningful. Librarians of every stripe have a rich heritage of critical engagement with technology with which to guide their ongoing navigation of these tensions.

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