

history of the book, as earlier taught in library schools (for lengthy examples, see pages xv, 11, 112, or 322).

With its diffuse focus and absence of editorial intervention, *Cuneiform to Computer* has the general air of a first draft or a vanity press production. Academic librarians and their clientele may find some of its bibliographical references to be helpful as entry points into some specific aspect of a vast subject. Persons looking for inspiration about reference sources and their history should consult works such as Tom McArthur's splendid *Worlds of Reference* (Cambridge University Press, 1985) or *Distinguished Classics of Reference Publishing*, edited by James Rettig (Oryx Press, 1992).—*Elizabeth Swaim, Wesleyan University (retired)*.

O'Donnell, James J. *Avatars of the Word: From Papyrus to Cyberspace*. Cambridge, Mass.: Harvard Univ. Pr., 1998. 210p. \$24.95, alk. paper (ISBN 0-674-05545-4). LC 97-32256.

In *Avatars of the Word*, James O'Donnell, professor of classical studies and vice provost for information systems and computing at the University of Pennsylvania, reflects in lucid, thoughtful, and thought-provoking prose on the textual foundations of Western culture and the evolving connections among the technologies for recording, distributing, and preserving the written word from late Latin antiquity to our contemporary age of electronic information.

Augustine (354–430) and Cassiodorus (c. 490–c. 583), both of whom figure prominently in O'Donnell's scholarly career, put in appearances throughout *Avatars* as both significant characters in the development of textual culture and reference points in the interplay of continuity and change across the centuries. Augustine, Bishop of Hippo and a founding father of Latin Christianity, left a textual record of more than five million words when he died in 430. When Cassiodorus retired from a career in public office some 150 years later, he established a monastery where students could study the cor-

pus of Christian literature that had continued to grow since Augustine's time. As well as assembling this library, Cassiodorus compiled one of the first of what would become a long line of bibliographic tools for the monastery's students—an annotated bibliographic guide to Latin Christianity.

From these beginnings, texts continued to accumulate, as did tools to make their production and use easier and more efficient. The codex, a second-century development, had superseded the scroll by the fourth century. The codex was not only handier to use, but it also supported non-linear and hypertextual uses of text. The invention of movable type in the fifteenth century made the production and distribution of texts easier, faster, and cheaper, as well as put access to textual culture within the reach of a much larger public. The present rapid migration of text to electronic formats broadens access even more extensively and places the possibility of authorship in the hands of virtually anyone with the necessary hardware and software.

The importance of access to the technologies of the word is one of the central issues O'Donnell addresses. Given the authority accorded to textual sources in Western culture, control over their preservation, selection, and deployment is a powerful tool in the construction of the master narratives that inform Western social and cultural identities. But these texts have never spoken for themselves. (Augustine puts in a reappearance as a case in point.) Mainstream Western culture has been shaped as much, if not more, by what has been left out of the story. As new technologies of the word open up the field of textual production and consumption, voices previously excluded increasingly challenge those master narratives. It will be virtually impossible to assert control over the written word in cyberspace.

O'Donnell sees this liberation of the word as a good thing, and it is difficult to argue with him. An abundance of diverse information can be exhilarating and can

broaden the mind, but it also may confuse, even frighten, and reinforce tendencies to withdraw. Management of the emerging information glut becomes the important issue. O'Donnell has kind words for librarians, and he sees opportunities for them to take the lead by extending their profession's experience and expertise in evaluating, filtering, and describing information resources into cyberspace. Librarians are the intelligent software needed to organize electronic information resources, but they will face significant challenges in maintaining access to, and preserving resources in, electronic formats.

Higher education, too, has a significant contribution to make in preparing people for life in a world of electronic text. However, this will require a reordering of priorities and practices as well as significant changes in the way we teach. The electronic resources already at hand provide an unprecedented opportunity to emphasize the learning process by having students participate in the ongoing work of scholarship. In cooperation with each other and with their professors, students can engage interactively with textual resources in projects that will make them active participants in broadening and deepening our collective knowledge. Such experience in the classroom can give students a better preparation for life after graduation than do conventional pedagogical practices.

O'Donnell points out that improvements and innovations in technology initially tend to be perceived simply as better ways to do familiar tasks. Over time, their cumulative effects, which cannot be foreseen, much less controlled, create new and different environments to which individuals and societies must adapt. In *Avatars*, O'Donnell has chosen to speak to the positive potential consequences of electronic texts even as he acknowledges that there are other, less desirable possibilities. As individuals, we may hope for the best while fearing something worse and, bearing in mind Cassiodorus who puts in a final appearance at the conclu-

sion of *Avatars*, do the best we can to respond constructively.—Chris Africa, *University of Iowa*.

Qualitative Research. Eds. Gillian M. McCombs and Theresa M. Maylone. Champaign, Ill.: University of Illinois Graduate School of Library and Information Science, *Library Trends* 46, no. 4 (spring 1998): 597-789. \$18.50 (ISSN 0024-2594).

Despite, or perhaps because of, the importance of a largely quantitative information science in the recent history of librarianship, efforts to introduce us to, and school us in, qualitative research are now much more common than they once were. Wisely steering clear of the more general epistemological issues in the philosophy of the social sciences (not because these are unimportant but, rather, because their importance demands separate and full treatment elsewhere), this collection of ten contributions nonetheless manages to cover a sizable range of methodological and theoretical issues. That in itself makes it worth reading.

For example, Horn economically describes a set of four general theoretical orientations that tends to frame much, if not all, of qualitative research: symbolic interactionism, phenomenology, hermeneutics, and critical studies (the bibliography provides many places to continue for those who are interested). Gary P. Radford addresses the positivist bias of information science with useful discussions of recent French social theory. Day discusses organizational change from the standpoint of discourse analysis and expansive ideology-critique. And Liebscher rounds out the more theoretical end by recognizing (as much of the better work in the social sciences shows) that quantitative and qualitative methods need not be mutually exclusive and should be creatively played off one another. For those entrenched in the positivist camp who are unconvinced by the general arguments set forth in favor of qualitative research, Liebscher's discussion of triangulation should be especially relevant. They ought