browsing the library shelves.” Her point is that the vocabulary of online catalogs often does not match the vocabulary of humanists.

The discussion session that follows the second set of papers focuses on the roles of librarians in enhancing accessibility to information. The keynote speech, by Koga Setsuko of Aoyama Gakuin University, leads to discussion of the diminishing role of librarians as mediators between users and information. She revealed that: “In Asia, the importance placed on librarians is not very high.” Another presenter noted that in many Asian countries reference service is passive and that sometimes librarians purposely work ineffectively so that their work will not be completed and they will not be left without work—and a job—to do. But Chang reiterated that the electronic environment will make more, rather than less, work for librarians as they select and evaluate electronic media, catalog them, and teach people to use them.

Much of what is presented in these papers is fairly common knowledge to U.S. librarians, but perhaps less well known to Japanese librarians. Conversely, much of what the Japanese librarians related in the discussion sessions is probably quite evident to Japanese librarians, but largely unknown to those in the United States. Thus, this volume is indeed a document that reflects both Japanese and American interests and concerns about the relationship between the electronic information environment and academic libraries in the two countries. Both sides will find much valuable information and opinion in this volume.

In the preface to these conference proceedings, the editor states: “The Middle Ages possessed a world view based on divine laws, which fostered an environment of control of information. In due course came the invention of printing.” It is ironic to read such a statement in a volume of papers from a conference in Asia because, as the editor surely knows, both block printing and printing by movable type were in use in Asia centuries before the Middle Ages in Europe.—Raymond Lum, Harvard University.


Librarians have more reason than most to appreciate the interplay between technology and language. After all, the wares on their shelves are almost always technologically preserved language artifacts, be these cuneiform tablets, Roman codices, medieval manuscripts, printed books, texts preserved in digital form, or streamed audio delivered via the Internet. As a profession, we are aware of certain watershed events in language preservation and reproduction technology, with the Gutenberg revolution surely foremost among them. But we also manifest an unfortunate tendency to equate technology with machinery, when in fact the elaboration of an alphabet or the many other conventions of rendering spoken language in written form are—no less than the printing press—fruits of human invention and imitation. Writing is, as Walter J. Ong described it in *Orality and Literacy: The Technologizing of the Word* (1982), a “deeply interiorized technology.” It “initiated what print and computers only continue, the reduction of dynamic sound to quiescent space, the separation of the word from the living present . . . .” As a reflex of a mistaken identification of *Techne* not with *Ars*, but with *Machina*, we are prone to see in the page of a medieval manuscript, in its illuminations and rubrications, its gracefully rounded uncials or less graceful, angular fraktur, above all the desire of a presumably pretechnological scribe to please the eye rather than to wield a communicative tool. But to do this both un-
derestimates and fundamentally misunderstands the medieval book by imputing to its creator only a passion for ornament rather than a will to communicate. With Serenus Zeitblom, Thomas Mann’s narrator in Doctor Faustus, we can observe that “ornament and meaning always run alongside each other. The old writings too served for both ornament and communication. Nobody can tell me that there is nothing communicated here.”

Paul Saenger’s remarkable new book on the emergence of (rapidly) readable text in the course of the Middle Ages demonstrates that there has been a discourse on readability, on the most economical and efficient rendering of meaning as characters on a page, antedating by centuries the period covered by Elizabeth Eisenstein’s landmark Printing Press As an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe (1979). Indeed, in the wake of Saenger’s book and the research on which it is based (the scholarly apparatus takes up 200 of the book’s nearly 500 pages), the transformation of scholarly and popular communication that Eisenstein ascribes to the print “revolution” of the fifteenth and sixteenth centuries should itself be reconsidered. As Saenger shows, an awareness for the meaningfulness of form and a desire to mold form to maximize reading efficiency—in a word, to make the book an effective vehicle for the conveyance of complex meanings—is true of medieval writing culture no less than of the early modern culture of print. And the scribal innovations of medieval Europe were no less seminal and far-reaching than those of post-Gutenberg typesetters.

The book’s full title succinctly renders both its content and principal argument: It is a book about the spaces between words and their revolutionary implications for modern reading, which is silent, fast, and discontinuous. We dip into and back out of texts in acts of “intrusive consultation.” Here, too, we moderns might naively regard this space as self-evident—until, that is, we begin encountering the unseparated narrative or epigraphic texts of Greek and Roman antiquity and of the early to high Middle Ages that were written without spatial interruption: Scriptura Continua. Space between words, as Saenger documents, was introduced into medieval manuscripts to serve as a co-constituent of meaning, a visual cue allowing the rapid parsing of units of meaning at the sentence, word, and morphemic level. Without this space, text must be separated by the reader at considerable cognitive expense, usually by repeated passes through the text, beginning with the Praelecto, the reading of a text to oneself, “quietly with suppressed voice,” that preceded Narratio, or reading for comprehension. It will be recalled that the libraries of medieval monasteries were not places of silent intercourse with the book, as they are often conceived today. Instead, they echoed with the muffled voices of monks reading to themselves—the Sussurri dei Libri (whispering of the books) that Umberto Eco conjures up before the reader’s eye (and ear) in the library of The Name of the Rose.

Of course, separations of texts into word units did not happen by fiat or all at once but, instead, emerged slowly, from the seventh century on, beginning in the Scriptoria of the British Isles and moving gradually eastward and southward through Europe. In charting this spread across Europe, Space between Words gives careful consideration to the additional graphic cues that allowed medieval readers to read fluidly, rapidly, and silently: capitalization to mark the beginnings of certain words; traits d’union (roughly, hyphens) showing the lack of completion of a word at the end of a line; ligatures and “monolexisms” (such as the “&”) that aided the “compaction” of text—all technological devices improving reading efficiency.

Other studies of the history of the written word have commented on the importance of space and the spatial relation-
ships of textual elements in the transmis-
sion of meaning. In Ong’s work already
mentioned, an entire section is devoted
to “typographic space,” and he observes
correctly that what is today called white
space is of “high significance” for the
communication of complexity in “the
modern and post-modern world.” But as
a convention and a technology of the
word, Ong ascribes it to typography (i.e.,
to print, instead of “merely to writing”).
He overlooks the microtextual origins of
white space as a coformative of meaning.
Saenger’s great service is to show that the
discovery of the semiotic potential of
space is centuries older than print.

This book therefore leads us to con-
sider once again the meaning of technol-
ogy in relation to reading and writing.
Technology did not begin its association
with verbal communication with the in-
vention of printing. Instead, medieval
scribes such as Gerbert, Richer, Fulbert,
and Abbo were—no less than
Gutenberg—innovators and “technolo-
gists of the word.” Graphic ideas were
tried and discarded (e.g., the use of capi-
tals to mark word endings, not just be-
ginnings, or the use of the long ĵ at word
or sentence beginnings). Scribes even ex-
perimented with inserting spaces be-
tween syllables as well as between words
in what Saenger refers to as “aerated
text.” This is a visit to a museum where
we see all varieties of clever innovations
that have nonetheless ended up on the
scrap heap of history, which in turn gives
us a sense for the hit-and-miss, trial-and-
error, by no means linear way in which
we have arrived at the graphic conven-
tions by which we live today. If science is
a process of objectification—that is, the
taking of that which is familiar and mak-
ing it strange so that by describing the
strangeness, one comprehends the fami-
rilar for the first time, Saenger has written
a profoundly scientific book. With the
intuitions and authority of the thoroughly
trained humanist, but also the toolbox of
the cognitive psychologist, he has sub-
jected the field of medieval writing and
reading to a scientific review that meets
high standards in a number of disciplines.
For the first time, we see the evolution of
writing, print, and computing not as a
succession of fitful revolutions but,
rather, as a continuum of technological
innovation. Many of the issues we face
today (e.g., the readability of extended
texts on scrollable computer screens) had
their roots in the ruminations of Irish
scribes of the seventh century.—Jeffrey
Garrett, Northwestern University.

Universities and Empire: Money and Politics
in the Social Sciences during the Cold War.
Ed. Christopher Simpson. New York:
The New Pr., 1998. 273p. $27.50 (ISBN
1-56584-387-8).

Universities and Empire is the second vol-
ume in The New Press’s Cold War and the
University Series. It is indeed, as the dust
jacket says, a major contribution to a
growing field of inquiry. It encompasses
an examination of politics and funding
of intellectual life in universities cover-
ing a period that begins with WWI and
includes the post–Cold War period when
the corporate juggernaut takes over from
the military national security forces. Al-
though it follows from the first book in
this series, The Cold War and the Univer-
sity, it goes beyond that earlier contribu-
tion to include a picture of what this pe-
riod looked like from a Russian point of
view and what happens when corporate
interests boldly begin a redefinition of the
American university.

It is widely believed in this country
that university professors have a mandate
to carry out certain functions related to
teaching, learning, and the creation of
new knowledge. In the process of carry-
ning out these functions, faculty (although
not all faculty) have supported free and
open discussion of ideas, and have fos-
tered and fought for a nonoppressive envi-
rónment in the university. The collective
result of faculty responsibilities is what gives
the university its reputation and prestige.