Dillon, Andrew. *Designing Usable Electronic Text: Ergonomic Aspects of Human Information Usage.* Bristol, Pa.: Taylor and Francis, 1994. 195p. $37.50 cloth (ISBN 0-7484-0112-1), $18 paper (ISBN 0-7484-0113-4).

Ergonomic considerations of the printed word began with the invention of movable type. The early history of print is marked by efforts to design printed objects that would not only be familiar to readers within a manuscript culture, but that would make the complex act of reading pleasurable and informative. Often the design of books reflected the theoretical considerations of highly educated printers, such as Aldus Manutius, with practical design issues of legibility and ease of use. The Aldine editions of Dante, for example, were printed without the extensive commentaries found in earlier editions, in a smaller octavo format using Aldus Manutius' new italic font, suggesting that the famous humanist-printer wished to have his readers directly encounter classic texts. Paratextual features—such as title pages, tables of contents, indexes, location and extent of glosses—which appeared in bewildering arrays during the century after the invention of print, were developed to make information found in these volumes more accessible, easier to read, and frequently more portable and less costly.

Andrew Dillon's examination of the ergonomics of electronic text thus falls within a long tradition of book/print design. As in the Renaissance, the new technology of electronic text requires a systematic assessment of the strengths of older technologies, such as print, and models which will make exploitation of the new technology more effective and marketable. Dillon's well-designed and attractively printed volume will not serve as a cookbook for designers of electronic texts. His analysis and conclusions suggest models in which the design of electronic texts should occur and by which they can be assessed rather than a set of rules to be applied.

Dillon's conception of electronic text is extremely flexible, and would seem to include any information resource that can be apprehended by a human. As such, we might include character-based documents, bitmapped images of documents, composite documents combining text, image, and other elements (such as audio or video). I would presume that documents compiled from the results of queries in one or more databases would also be considered by Dillon as electronic text. Further, Dillon sees that hypertextual links or cross-references are vital components of electronic text. The ergonomics of electronic text, in Dillon's view, combines the ways in which access to information is performed with the textual organization and on-screen display attributes.

Given this broad definition of electronic text, Dillon proposes a task-oriented framework of e-text design based on four overlapping components of the reading experience: "1) a task model . . . that deals with the reader's needs and uses for the material; 2) an information model . . . that provides a model of the information space; 3) a set of manipulation skills and facilities . . . that support physical use of the material; and, 4) a serial reading processor . . . that represents the cognitive and perceptual processing involved in reading words and sentences."

Readers approach a body of material with very specific goals and skills which must be understood and facilitated by the database designer. We are all very familiar with the different cognitive acts of scanning an academic journal for recent research trends, reading a collection of verse, and looking up a command from our favorite software package. Of particular importance is the organization of "information space," since all information is located within a much larger context found within a particular document, and given an increasingly integrated network environment, within constellations of disparate documents. Electronic texts must be designed to enable readers to find and navigate information using a variety of cues, ranging from tables of contents and headers to complex hypertextual cross-references between texts located on networks.

The underlying strength of Dillon's analysis is his sophisticated view of the complex of activities associated with the act of reading. Much of this volume is devoted to a discussion of previous research from many fields, such as cognitive science and psychology, on the act of reading. It is clear that basic technical aspects of reading electronic text, such as image quality and organization of on-screen displays, are as important as print fonts and page formatting are to printed documents. There are many subtle aspects of textuality and reading, such as the ability of readers to grasp and retain the overall structure of a document and an argument, which have been rarely discussed in examinations of reading of either print or electronic text. In Dillon's view, no single discipline, such as cognitive psychology or information retrieval, adequately explains the reading process. Thus, his discussion attempts to draw points of contact between a number of different conceptions of reading or, perhaps more accurately, information consumption.

It is to Dillon's great credit that he sees broad lines of continuity between print and electronic text. The organization of print and electronic reference materials, such as encyclopedias and dictionaries, are rather similar. Dillon suggests that proponents of hypermedia have failed to grasp the degree to which users of print documents rarely read in purely sequential fashion. While it may be slightly less convenient to jump from place to place in a printed document, there are many cues to entice the reader to break the linear order of the printed book, including indexes, tables of contents, foot- and end-notes, not to mention cross-references and other points where authors recall or anticipate related discussions. Finally, Dillon warns us in several places, electronic resources will *not* completely supersede print media at all. It is obvious, he suggests, that few people would want to read a lengthy text of any kind in its electronic rather than print form. Thus, "one should avoid seeing electronic text as a competitor to paper in some form of 'either-or'

challenge for supremacy." The two forms of text will exist as complements to each other, distinguished by the tasks best performed by each medium: "The strengths of the computer will enable cheap storage and rapid access while the intimacy and familiarity of paper will be retained for detailed studying and examination of material."

The degree to which electronic text becomes an important distributive media, alongside print, largely depends on the degree to which electronic text design can make information responsive to the requirements of readers and the demands of particular kinds of textual information.—*Mark Olsen, University of Chicago, Chicago, Illinois.*

A Potencie of Life: Books in Society. Ed. Nicolas Barker. London: British Library, 1993. 206p. $40 (ISBN 0-7123-0287-5).

The title of this collection is from Milton: "Books are not absolutely dead things but doe contain a potencie of life in them to be as active as the soule whose progeny they are." This animistic credo nicely epitomizes a volume which brings together under the editorship of Nicolas Barker an admirable set of articles on the history of the book. Based on lectures given at UCLA in 1986–87, the collection provides a useful introduction to the range of topics and methodologies that coexist under the rubric of "the history of the book." In fact, Barker contends that the history of the book is more than a field of study; it is a genuine discipline in its own right. Thus Barker and his collaborator, Thomas Adams, begin the volume with a founding manifesto, a "new model for the study of the book," one which seeks to provide a more defined and functional conception of the new discipline than Robert Darnton's earlier "communications circuit" did: "Our scheme is designed to encompass all the topics that would properly be included in the history of the book. . . . What we offer is a map." Models are, I suppose, necessary evils; we chafe at their pretensions and confinements but find their