

Lectio multiplicior, lectio potior:
On the Form and Impact of
Electronic Hypermedia Editions

JOAN GRENIER-WINTHER

It has been more than fifty years since Vannevar Bush theorized about an information browsing and retrieval mechanism that he called the “memex.”¹ More than twenty years have passed since Ted Nelson first described his notion of computer-mediated linked texts and coined the term “hypertext.”² The Internet, this “worldwide

¹ In a seminal and visionary article entitled “As We May Think,” which appeared in the *Atlantic Monthly* 176 (July, 1945), 101–8, Bush, wartime Director of the Office of Scientific Research and Development under Franklin Roosevelt, theorized about a hypermedia-type browsing and retrieval mechanism, “an enlarged intimate supplement to [one’s] memory” that he called the “memex” (pp. 106–7). Bush envisioned being able to create and access “associative trails” of data with his imagined device (p. 106), which would consist of “a desk . . . [which] can presumably be operated from a distance . . . on the top [of which] are slanting translucent screens, on which material can be projected for convenient reading” (p. 107). To Bush, the model of the memex for the organization of data was far preferable to standard methods for managing information, for he viewed the human mind as functioning not according to artificial systems of indexing, but according to associative linking. “When data of any sort are placed in storage, they are filed alphabetically or numerically, and information is found (when it is) by tracing it down from subclass to subclass. . . . Having found one item, moreover, one has to emerge from the system and re-enter on a new path. The human mind does not work that way. It operates by association” (p. 106).

² See Theodore H. Nelson, *Computer Lib/Dream Machines* (1974; reprint Redmond, Wash., 1987).

extension of your [computer's] hard disk," was created more than thirty years ago.³ And it has already been four years since the first appearance on the Internet of World Wide Web servers, the product of researchers at the European Particle Physics Laboratory (CERN) in Geneva, in particular, Tim Berners-Lee, who applied hypertext technology to link together documents located at remote sites, forming an open and organic web of informational nodes, easily navigable using web browsers.⁴ What is new, however, is the reality of hypertext, the Internet, and the World Wide Web in our personal and professional lives. In the field of literary studies, this reality can be seen in the mushrooming of World Wide Web sites dedicated to specific authors, genres, and texts, in the growing use of hypertext-based research and pedagogical tools, and in the increasing popularity of web-based electronic journals, listserv discussion groups, and virtual conferencing.

As the newness begins to wear off this phenomenon, however, debates have surfaced over the advantages and disadvantages of the hypertext browsing and retrieval mechanism that is the World Wide Web. On the negative side, concerns are being expressed about the quality of the information that is being posted, information which may not be subject to the kind of screening or validation process that usually exists in the print media. Information of questionable reliability can easily be posted on the Web, gaining a certain amount of authority simply by virtue of its being posted in a public space, and there exists no system to validate this information other than by reader response. Concerns are also being voiced about the sheer volume of information on the Web and the difficulty the end user has in sifting through and processing the information. Ironically, these characteristics of the Web are exactly those seen by others to be its strength. With nothing like the institutional or authoritative screening process found in print publishing, the Web, proponents argue, permits a degree of both freedom of expression and transmission of information, the benefits of which far outweigh the occasional specious or objectionable posting. In a similar way, the advantages of having access to a vast repository of information on any topic are also seen to outweigh the logistical problems involved in navigating this information.

While a serious discussion of the issues involved in these divergent views of the World Wide Web and of the value of hypertext exceed the scope of this essay, I would propose that an examination of the use of the World Wide Web and hypertext technology in the field of textual criticism, specifically in the editing of medieval texts,

³ Ed Krol and Paula Ferguson, *The Whole Internet for Windows 95* (Sebastopol, Calif., 1995), p. 13. The Internet was born of an effort by the U. S. Department of Defense, with significant funding from the National Science Foundation, to connect a DOD network called the ARPAnet (no longer in existence) and various other radio and satellite networks to conduct research on network designs that might withstand outages during periods of war or other catastrophe.

⁴ For a hypertextual history of the World Wide Web, see <<http://www.w3.org/pub/WWW/History.htm>>.

may provide a cogent model for the constructive integration of this technology into other aspects of literary study and into other fields. Thus, over the course the next few pages, I will briefly examine some ways the economics of the print media have contributed to the shaping of editorial practice, as well as of the concepts of the literary text and the canon; I will describe a specific electronic, hypermedia project in which I am involved, highlighting some of the editorial, economic, and ergonomic considerations I have encountered in producing a functional e-edition; and in conclusion, I will discuss the impact this new, electronic, hypermedia delivery method will have on the roles of the editor and the reader, as well as on the literary canon itself.

Most modern debates on the canon have tended to focus on the determination of value, whether according to aesthetic, ideological, pedagogical, or other criteria, as the primary factor in the canonization of a literary work.⁵ Although the perceived value of a work is certainly a powerful determinant in its eventual canonicity, value itself cannot be judged if a work is not first made available to a general or scholarly readership. Whether we are talking about medieval or modern texts, it is an economic reality that if a work is considered too costly to produce or not adequately marketable, it is unlikely to be published. In the case of early texts, especially those texts available only in manuscript form and preserved in special library or private collections, relatively few are published and therefore known to a sizeable enough public to be considered for canonization. The economics involved in print publishing, that is, the cost of producing a work and the potential marketability of that work, play a paramount role in determining which works are even placed in contention for canonization.⁶

Once a text has been selected for print publication, the format of its presentation (also a factor in its ultimate reception by the public and its potential for canonization) may be determined on both logistical and economic grounds. If a work is found in multiple manuscript witnesses, limitations on the scale of a print edition have often forced editors to distill the amount of textual data they present down to a manageable

⁵ Among the many works on the literary canon, see especially Jan Gorak, *The Making of the Canon: Genesis and Crisis of a Literary Idea* (London, 1991); Robert von Hallberg, ed., *Canons* (Chicago: 1984); John Guillory, *Cultural Capital* (Chicago, 1993); David H. Richter, ed., *Falling Into Theory* (Boston, 1994); Herbert Lindenberger, *The History in Literature: On Value, Genre, Institutions* (New York, 1990); Charles Altieri, *Canons and Consequences: Reflections on the Ethical Force of Imaginative Ideals* (Evanston, Ill., 1990); Robert Scholes, "Canonicity and Textuality," in *Introduction to Scholarship in Modern Languages and Literatures*, ed. Joseph Gibaldi (New York, 1992); and Barbara Herrnstein Smith, *Contingencies of Value: Alternative Perspectives for Critical Theory* (Cambridge, Mass., 1988).

⁶ For a thorough discussion of this and other issues related to the impact of technology on scholarship, including the rights of control over networked texts, pricing structures, and copyright law, see Warren Chernaik, Caroline Davis, and Marilyn Deegan, eds., *The Politics of the Electronic Text* (Oxford, 1993).

size out of a concern for readability. Decisions regarding the scale of the published work are, however, also controlled by economic factors, such as marketability, production costs—paper, typesetting, binding, distribution and marketing costs—and ultimate “price point” or projected sale price of the product. In the case of a critical edition of a medieval text, for example, editors have traditionally been obliged to economize on the presentation by determining a single “best” text from among perhaps several manuscript witnesses upon which to base the edition.⁷ Variant readings found in rejected manuscripts are then presented in an abbreviated, codified form in the critical apparatus.

Thus, in the past two centuries, various pseudo-scientific methods have been developed according to which editors have tried to determine the “best” text of a given work.⁸ In the 1800s, for example, a school of textual criticism developed which is now known under a variety of names, including the “scientific method,” the “German method,” the “method of common error,” and the “Lachmann method,” this latter after the German classical philologist who defined the method.⁹ Proponents of the Scientific method used errors common to groups of manuscripts of a text to determine a *stemma codicum* or textual genealogy. From there, the “best” branch of the genealogy was used to compile a composite text which conformed to the editor’s conception of the lost authorial holograph. At the beginning of this century, Joseph Bédier challenged this method, criticizing Lachmannians for manipulating variant distribution in order to construct a composite version that did not necessarily resemble any extant manuscript.¹⁰ Bédier recommended the selection of the single most coherent, but not necessarily the oldest, manuscript as the base for an edition. In addition, he advocated only minimal, documented editorial intervention in the text, and then only to correct manifestly faulty

⁷ Describing the choice by some editors to publish multiple versions of a text, Brian Merrilees commented in the seventies that “such ventures may prove too costly to publish under present economic conditions, but for short texts they should still be feasible. One could imagine very useful comparative editions, for example, of Anglo-Norman and continental versions of the same text” (“Anglo-Norman,” in *Editing Medieval Texts: English, French, and Latin Written in England*, ed. A. G. Rigg [New York, 1977], p. 102).

⁸ On the history of textual criticism, see, R. Pfeiffer, *History of Classical Scholarship*, 2 vols. (Oxford, 1968–76), 2:99–163; Alfred Foulet and Mary Blakely Speer, *On Editing Old French Texts* (Lawrence, Kans., 1979), especially pp. 1–39; Frederick Whitehead, “The Textual Criticism of the *Chanson de Roland*: An Historical Review,” in *Studies in Medieval French Presented to Alfred Ewert*, ed. E. A. Frances (Oxford, 1961), pp. 76–89; and Frederick Whitehead and Cedric E. Pickford, “The Introduction to the *Lai de l’Ombre*: Sixty Years Later,” *Romania* 94 (1973), 145–56.

⁹ See especially Sebastiano Timpanaro, *La genesi del metodo del Lachmann* (Florence, 1963).

¹⁰ See the preface of Bédier’s second edition of the *Lai de l’Ombre* (Paris, 1913), as well as “La Tradition manuscrite du *Lai de l’Ombre*: Réflexions sur l’art d’éditer les anciens textes,” *Romania* 54 (1928), 161–96, 321–56. Reprinted as pamphlet (Paris, 1970).

readings, giving precedence to the scribal copy.¹¹ In his turn, Bédier has been criticized by modern editors, especially those who fault his conservatism and his favoring of the scribal copy over editorial conjectures about the intention of the author. In recent years, the so-called Eclectic method has reigned, wherein an editorial approach is chosen according to the particular characteristics of the text to be edited and the number and quality of the manuscript witnesses.

In the end, however, what all of these methods have had in common is the goal of determining the single, definitive text of a work from among multiple manuscript witnesses. This quest has been guided by what I would suggest is a questionable "conception of the unitary text,"¹² especially given the less-than-definitive nature of oral and manuscript culture in the Middle Ages.¹³ Yet, regardless of editorial method or philological justification for choosing a particular method, it is my contention that economic factors inherent in the print media have played a determining role in the scale and format of the published text, in the choice of which texts are published, as well as in the formation of the conception itself of the unitary text.

What the economically-driven editorial praxis of determining a single, "best" text has done, moreover, is to accord to the editor enormous control over the ultimate perception of and use of the text by its readers, whether they be philologists, paleographers, codicologists, literary critics, or general readers. Editors of traditional print critical editions have had to determine which texts are the definitive ones. Readers, in turn, have had either to passively accept editorial choices or reject them in favor of other possibilities pieced together from the variant readings found in the critical apparatus, a task few readers are apt to undertake. In those cases where the reader is in a specialized field, traditional print editions have not lent themselves easily to analysis.

¹¹ "Aussi la méthode d'édition la plus recommandable est-elle peut-être . . . celle que régit un esprit de défiance de soi, de prudence, d'extrême 'conservatisme,' un énergique vouloir, porté jusqu'au parti pris, d'ouvrir aux scribes le plus large crédit et de ne toucher au texte d'un manuscrit que l'on imprime qu'en cas d'extrême et presque évidente nécessité: toutes les corrections conjecturales devraient être reléguées en quelque appendice. . . . c'est, de toutes les méthodes connues, celle qui risque le moins d'être dommageable aux textes" (Bédier, "La Tradition manuscrite," p. 356).

¹² George P. Landow, "Hypertext, Scholarly Annotation, and the Electronic Edition" in "Hypertext Editions: Theory and Practice," a panel discussion at the conference of the Association for Literary and Linguistic Computing-Association for Computers and the Humanities, 1996 <<http://gonzo.hd.uib.no/allc-ach96/Panels/Finneran/Landow.html>>, 6 August 1996.

¹³ Paul Zumthor's seminal study of the "mouvance" of the medieval text (*Essai de poétique médiévale* [Paris, 1973], especially pp. 65–75) has influenced a new generation of editors, who seek to make multiple versions of a text available in order that the "trace de l'oeuvre" might be recovered. In the same vein, Bernard Cerquiglini has maintained that "l'écriture médiévale ne produit pas des variantes, elle est variance," in *Eloge de la variante: Histoire critique de la philologie* (Paris, 1989), p. 111.

In a multiple-witness text where the variant readings are for the most part orthographical, for example, the philologist's study of the morphological, syntactical, and semantic idiosyncracies in the different manuscript traditions is made difficult by the fragmented, often incomplete, often cryptic presentation of the variant readings in the critical apparatus. And in the case of texts with widely, even radically divergent manuscript lessons, the hierarchical presentation of the text in terms of "best" version vis-à-vis "rejected" versions can compromise a full understanding of the work based on a reading of all of the manuscript witnesses. To put it quite simply, the limitations imposed by the print media on the scale of the published text have forced the editor into a position of having to present an often limited view of the textual artifact, and have left the reader with little or no opportunity to view images of the original manuscript folios or to consult alternate manuscript witnesses of the text.

The advent of electronic, hypertext editions, however, allows a fundamental and critical reconceptualization of the text, the editor, the reader, and the canon. In the following pages, I will describe a specific e-edition project I am involved in developing. Before I do so, however, I would like to review the interrelated issues of scale and cost as they pertain to electronic editions, so that a reliable comparison of the economics of print and electronic editions can be made.

Scale is largely a non-issue in electronic publication. If, for example, a electronic edition is going to be made available on a World Wide Web site, then disk space on a web server is required. With memory now measured in gigabytes, if not terabytes and petabytes,¹⁴ the amount of space available on a server for editorial purposes is not a limiting factor. If the e-edition is going to be made available in static form, on CD-ROM or the evolving DVD-ROM standard, scale is, relatively speaking, more of an issue, but it would be the exceptional text that would not fit on one CD-ROM disk, let alone a DVD-ROM disk that holds twenty-five times more data than a standard CD-ROM disk.¹⁵

Cost is a bit more tricky. Certain items on an e-editor's budget would not differ from those on a print editor's. Expenses might include such costs as permission fees to reproduce text and images, cost of microfilm or microfiche copies of the manuscript folios, and expenses involved in traveling to the manuscripts to verify the transcription. And the development budget for an e-edition and a print edition would look fairly

¹⁴ One terabyte equals 1000 gigabytes; one petabyte equals 1000 terabytes.

¹⁵ Computer-based digital video disks (DVD-ROM) can hold from 4.7 gigabytes of data on a single-layer, CD-size disk (enough to hold a full length movie or a computer application) up to 17 gigabytes on a double-sided disk (8.5 gigabytes per side), thus up to twenty-five times the capacity of CD-ROM disks. As a case in point, Microsoft Corporation's 1997 version of the *Encarta Multimedia Encyclopedia*, occupying two CD-ROM disks, could easily fit on a single DVD-ROM disk. On DVD-ROM disks, see Tom R. Halfhill, "CDs for the Gigabyte Era," *Byte* 21 (October 1996), 139-44, and Rex Farrance and Theresa W. Carey, "DVD: One Giant Step for CD," *PC World* 14 (September 1996), 118.

similar. Certain basic pieces of software—a word processing package to be used in transcribing the manuscripts and a robust database package for management of the textual data might be common to both, whereas an e-editor might also include an image editing package and a multimedia authoring program for designing the graphical user interface for the edition. Hardware requirements for development of an e-edition, as well as a print edition, would include a computer system (preferably portable for archival work) with enough hard disk space, random access memory, and processor speed to allow easy data processing, multi-tasking capabilities, and adequate storage of data; a tape backup as insurance against accidental deletion of data; and a portable Zip drive for overflow data storage. Access to digital imaging products would be a necessity for the e-edition, however, if images of the codex and the folios (including miniatures, illuminations, and marginalia) are to be included in the edition; access to video and audio recording systems may also be necessary.

Production and distribution costs will vary depending on whether the e-edition is networked or static. If the edition is going to be placed on the World Wide Web, the editor will need either to (1) purchase computer systems to run as a web server and a database server, the server software, and the Internet connection, and then either manage the system or hire a systems administrator; or (2) negotiate with a library or other institutional sponsor for space on a server and the services of their systems administrator. If the text is to be distributed in static form, lines on the budget would need to include the cost of digitizing components (as above), pressing or “burning” the disks, of packaging, and of marketing them.¹⁶

Cost to the end user is also dependent on the format chosen for the e-edition. If the edition is placed on the World Wide Web, the reader would need to have available a computer with Internet access and an up-to-date web browser capable of supporting applications (frames, Java applets, etc.) which might be built into the edition.¹⁷ As open access to networked machines becomes more commonplace in public institutions such as libraries and post offices, readers not able to afford their own systems will be able to access the text in these locations at little or no charge. In the case of the CD-ROM or DVD-ROM version of the text, the cost of the disk/s will probably vary in a way

¹⁶ As an example, a multimedia CD-ROM on T. S. Eliot's *The Waste Land* produced by John K. Boaz and Mildred M. Boaz at Illinois State University in 1993–94 cost over \$6000, not including the cost of the developers' own time. At the end of their project, the developers concluded that “the time and money required to realize such a project as this are beyond the means of the traditional teacher-scholar” and that they would probably not undertake to produce another CD “without the help of a publisher or the prospect of a much larger audience for the product to reduce the unit cost” (John K. Boaz and Mildred M. Boaz, “T. S. Eliot on a CD-ROM: A Narrative of the Production of a CD,” *Computers and the Humanities* 30 [1996], 131–38).

¹⁷ The current standard is either Microsoft Internet Explorer 3.01 (downloadable for free from Microsoft's World Wide Web site) or Netscape Navigator 3.01 (free to educators or available for purchase).

comparable to the price of print editions, with the understanding that the amount of textual, graphical, audio, and video data that it is possible to load onto the CD/DVD-ROM will eclipse the scale of the primarily textual content of the print edition. Availability of CD-ROM drives in personal and free-access computers will also become ubiquitous as more and more software products are sold in that format rather than on floppy disk. The situation for DVD-ROM drives is less certain, as the cost of this new technology will initially be rather high (the price of a DVD-ROM drive currently ranges from \$500–600) and the drives will not be universally available.

It is clear, therefore, from this brief overview of costs involved in preparing and accessing an electronic edition, that we have not reached anything like an editorial utopia where development and access costs are non-existent. Nevertheless, if alliances are made with computing centers for server space and if access is made available to those who need it, distribution of and access to high quality electronic editions via the World Wide Web, in particular, will become a cost-effective solution for all concerned.¹⁸ This is especially true when viewed in relation to the amount and variety of data that can be made available in an e-edition and to the number of yet unedited, uncanonized texts that can be added to the “docuverse” of published literary and extra-literary texts.

A case in point for all of those unedited, uncanonized texts which might now be added to the cultural record of their period by being edited in an electronic format is a collection of late medieval lyric poems written on the theme of the merciless lady that I am editing in collaboration with Jesse D. Hurlbut of Brigham Young University. The popularity in the late Middle Ages of the most famous of poems on this theme, Alain Chartier’s *La Belle dame sans mercy*,¹⁹ is attested by the great number of manuscripts (forty-four) in which it is found and the lively debates it generated (often referred to as the “querelle des femmes” or the dispute of the women) among members of the French court of Charles VII.²⁰ Moreover, the proto-feminist nature of the voice of the lady has positioned the poem as one of the most frequently anthologized of all fifteenth-century literary works, along with works by Christine de Pizan, Charles d’Orléans, and François Villon. What is, perhaps, less known is that *La Belle dame sans mercy* is not a unique and isolated entity, but constitutes only one in a group of poems on a similar theme, with certain poems possibly pre-dating Chartier’s work. Among the poems in the “cycle

¹⁸ A more centralized, subscription-based model for the electronic delivery and analysis of textual materials is the ARTFL project at the University of Chicago. The ARTFL site on the World Wide Web is at <<http://humanities.uchicago.edu/ARTFL/ARTFL.html>>.

¹⁹ Alain Chartier, *La Belle dame sans mercy*, ed. Arthur Piaget (Geneva, 1949).

²⁰ For a biography of Chartier, a detailed description of the manuscripts containing Chartier’s lyrical works, and a critical edition of these works, see J. C. Laidlaw, *The Poetical Works of Alain Chartier* (Cambridge, Eng., 1974.)

of *La Belle dame sans mercy*” are the anonymous *La Belle dame qui eut mercy*,²¹ Achille Caulier’s *L’Ospital d’Amour* and *La Cruelle femme en amour*, and Baudet Herenc’s *Le Parlement d’Amour*.²² The twenty poems that we have so far included in the cycle range in length from 300 to 1400 lines, and are found in at least thirty-eight manuscripts and twelve incunabula, with many poems found in up to ten manuscripts. The total occupies over 3500 manuscript folios. In a series of articles published in *Romania* (1901–1905), the Swiss medievalist, Arthur Piaget, introduced most of these poems, documented the manuscripts known then to contain them, and included a few partial editions.²³ Unjustly dismissing them, however, as mere imitations of Chartier’s opus, Piaget effectively condemned them to oblivion, thus ensuring the stability of the canonical cart of fifteenth-century texts and the place of Chartier’s poem among them.

Our decision to prepare an edition of poems in the cycle of *La Belle dame sans mercy* was based on our belief that it is essential that Chartier’s poem be read in the context of related poems, and that all of these works, like artifacts constituting a cultural record for that place and time, be made available for study. Our decision to prepare an electronic hypermedia edition of the poems had both a logistical and a philosophical basis. Logistically, a print edition of the over eighty manuscript witnesses of the poems would be unwieldy and rebarbative. As already discussed, economic factors in print publishing would undoubtedly limit the number of texts and variants presented, thus perpetuating restricted understanding of the cycle. The reader would be informed of choices made on his or her behalf and left to sift laboriously through a list of variant readings to reconstruct all other manuscript witnesses.

On the contrary, with an electronic edition, either networked or static, the text can be presented in as many different formats or levels of access as the editor may choose to prepare. These levels of access may include, but are not restricted to:

- digitized images of the original manuscript folios containing the text, decorations, initials, marginalia, miniatures, and full illuminations;

²¹ This poem is usually attributed to Oton de Granson, the late-fourteenth-century Savoyard poet, although this attribution is questionable. See J. Grenier-Winther, *Les Oeuvres complètes d’Oton de Granson*, forthcoming.

²² Jesse Hurlbut has already begun preparation of an electronic hypermedia edition of Achille Caulier’s poem, *L’Ospital d’Amour* (available in demonstration form at <<http://www.byu.edu/~hurlbut/ospital/toc.html>>), which will serve as a model for the editions of the remaining texts.

²³ Arthur Piaget, “*La Belle dame sans merci* et ses imitations,” *Romania* 30 (1901), 22–48, 317–35; 31 (1902), 315–49; 33 (1904), 179–208; and 34 (1905), 375–428, 559–97. Piaget does not mince his words when assessing the literary value of the poems in the cycle: “Toute cette production littéraire est d’une grande pauvreté. *La Belle dame sans merci* mise à part, avec *L’Amant rendu cordelier* et quelques fragments de deux ou trois autres poèmes, tout le reste est sans originalité et sans esprit” (p. 593).

- “archaeological” or diplomatic transcriptions of the text, with minimal editorial intervention; manuscript punctuation, abbreviations, spelling, and word-division would be preserved, with computer-generated replications of unusual abbreviations, characters, or fonts;²⁴
- modified archaeological version, with abbreviations expanded, punctuation added, and word-division and spelling regularized (i.e. use of both “i” and “j,” “u” and “v”);
- conservative critical edition, like modified archaeological version, but with very limited and highly documented editorial emendation and correction to individual texts as necessary for comprehension;
- liberal critical edition, like modified archaeological version, but with greater editorial intervention to emend and correct the text, using lessons from other manuscript witnesses and suppositions about authorial intention.

With the textual data pertaining to each format contained in a relational database, all manner of analytical searches—e.g., on rhyme schemes, grammatical structures, orthographical and dialectal patterns—will be possible on all versions of the text. Hyper-linked editorial notes and glossary items will be embedded in the text, as well as links to remote sites on the World Wide Web containing pertinent textual, audio, or visual materials. Additional links will continually be made to other electronic literary, historical, philosophical, scientific, and legal documents on the World Wide Web, thereby weaving a broader context in which to situate Chartier’s poem of the merciless lady and reifying the intertextual connection between nodes on the Web.

Philosophically, our decision to “go electronic” was based on our commitment to providing this level of access to a text, so that we are no longer limited to defining textual criticism as it was defined thirty years ago as “a general term for the application of logical method to analyzing the relationship between preserved and inferential forms of the text, *followed by the application of various techniques, including critical judgment, designed to establish what will ordinarily be the single definitive form of the text*” [emphasis added].²⁵ For unlike the exclusionary model of print media, which

²⁴ In a 1958 review of R. M. Wilson’s *The English Text of the Ancrene Riwe* (London, 1954), S. R. T. O. d’Ardenne criticized the Early English Text Society’s apparent intent to publish type-set “facsimiles,” citing the futility of such an endeavor. “This is obviously a fallacy. A print cannot replace a writ. It cannot reproduce (as a facsimile does) the shapes of letters, accents, suspensions, contractions, ligatures, &c. Even if the editor’s intention is, as the Society’s principles require, to reproduce the manuscript as it stands without emendation, there are immediately exceptions to the rule” (*Review of English Studies* n.s. 9 [1958], p. 56). D’Ardenne concludes by stating that diplomatic editions are not reliable and that it is “the function of photostats to replace so-called diplomatic texts and collations” (p. 58). The value (unseen by scholars forty, even twenty years ago) of having “diplomatically-transcribed” text keyed or scanned into a database for use in analytical searches makes the effort seem infinitely worthwhile.

²⁵ *Encyclopaedia Britannica* (1967), s.v. “textual criticism.”

forces an editor to decide on a “best” text and effectively to reject all others, the model of the electronic hypertext edition is inclusionary and desegregationalist by validating each literary artifact presented in the edition and asserting the fundamentally organic nature of textuality. “Hypertext encourages us to think of all texts as occupying the same writing space, and to regard any one author as simply adding new elements and links to that space.”²⁶ The magnitude of this change in our relationship to the text is equaled only by the speed with which the advances in technology which permit this change are being made.²⁷

The role of the editor in this new paradigm will continue to be crucial, encompassing all of the traditional responsibilities of the editor of a critical edition and more. The editor of an electronic edition will still be responsible for presenting an accurate transcription of the manuscript witnesses, as well as a scholarly critical apparatus, including information on the manuscripts, author, date and provenance of the text, indices and glossary. And as experts in textual criticism—paleography, codicology, philology, and literary analysis—e-editors are still in the best position to provide readers with expert guidance. What will change is the added responsibility the e-editor will have to design access to the abundance of textual and extra-textual material that will be included in the e-edition, static or Web-based.

One of the most frustrating aspects of the limitations of scale imposed by the print media on editions of medieval texts is the necessity for the editor to decide what type of readership to target. A scholarly readership requires a different level of access to the text and intricacy of presentation than a general one.²⁸ Neither approach can satisfy all

²⁶ Jay David Bolter, “Literature in the Electronic Writing Space,” in *Literacy Online: The Promise (and Peril) of Reading and Writing with Computers*, ed. Myron C. Tuman (Pittsburgh, 1992), p. 23. See also Virginia M. Doland, “Hypermedia as an Interpretive Act,” *Hypermedia 1* (1989), 6–19.

²⁷ It is ironic to note that in Microsoft’s state-of-the-art electronic edition of its *Encarta Multimedia Encyclopedia* on CD-ROM, the entry for “philology” does not reflect the same advances in technology which it embodies, echoing as it does the definition of “textual criticism” found in the 1967 print edition of the *Encyclopaedia Britannica* cited above: “In the twentieth century, philology is used in literature, historical linguistics, and other areas of study in order to reconstruct the texts of imperfect or mutilated manuscripts and inscriptions. The modern philologist often determines the text of a lost original by comparing variant readings in extant copies” [emphasis added] (*Encarta Multimedia Encyclopedia*, 1st. ed, s.v. “philology”).

²⁸ Eric Colledge, in a review of Mabel Day’s edition of *Ancrene Riwe* (*Review of English Studies* n.s. 4 [1953], 278–79), underscores the problem that limitations of scale in the print media have always imposed on the ability of editors to meet the needs of a varied readership. In his comments on the decision to reproduce medieval word-division in print editions, he states: “. . . scholars who wish to examine the vexed problem of the degree of separability allowed in the pronunciation of prefixed and compounded words will be ill advised to rely on any printed text;

possible readers. With the issue of scale deproblematized in an electronic edition, and multiple layers of the text being made available to a varied readership, the e-editor's challenge then becomes one of designing a database to store the textual data efficiently and an intuitive interface from which readers will retrieve the data in the format that they desire. In this, e-editors are learning from graphic artists and web site planners about database design and the ergonomics of a compelling and "user-friendly" interface. In a non-linear, hypermedia format for the delivery of data as opposed to a linear, print format, for example, it is essential that readers be presented with a consistent, efficient, and intuitive system for navigating the information. If this is not done, readers soon become frustrated by the vast amount of information available to them and give up, or they end up lost in a virtual maze with no markers to show them the way home.²⁹

If the editor of an electronic critical edition has prepared multiple views or levels of access to the text (see above), readers need to be presented with a descriptive menu outlining the choices available. In our electronic edition of the poems in the cycle of *La Belle dame sans mercy*, for example, readers will be given the choice to view the digitized, archaeological, modified archaeological, and the critical versions of each manuscript witness of each poem. In addition, we have decided to identify one manuscript for each poem that we, as editors, have judged to be the most complete or most free of "curious readings" (a kind of non-binding "Editor's Choice" text) and present a critical edition of that manuscript. These "Editor's Choice" texts will, however, be linked by line or block number to all variant readings, so that a reader can search the database for all variant readings of a given line or block of text. Readers will also be given the option to play the editor by being able to select different manuscript witnesses as the base text and to generate a simultaneously shifting set of variants, resulting in a kind of "floating base text" which will allow them to compare readings. In a future iteration of our electronic edition, we plan that readers will be given the option to view the manuscript witnesses simultaneously in a three-dimensional schema or in "elastic text"³⁰ in order to reinforce graphically the intratextuality of multiple manuscript witnesses.

To make the text accessible to a readership not comfortable with the Middle French of the lyrics, we plan to include an option for a translation of the "Editor's Choice" or a variety of versions into modern French or English. Menus will also be offered which

yet they are the only readers for whose benefit this decision [by the Early English Text Society] can have been taken . . ." (p. 279).

²⁹ For a discussion of navigational issues in hypertext, see Deborah M. Edwards and Lynda Hardman, "'Lost in Hyperspace': Cognitive Mapping and Navigation in a Hypertext Environment," in *Hypertext: Theory into Practice*, ed. Ray McAleese (Oxford, 1989), pp. 104–25.

³⁰ "Elastic texts" reside visibly, but in a muted fashion, just below the surface of the screen. As the cursor passes over certain hot spots embedded in the text, that portion of the text will "rise to the surface" in the sense that it will be more highlighted than the rest of the text. This technology is being developed at the MIT Media Lab (<http://nif.www.media.mit.edu/ecat/>).

will give readers interested in viewing the graphical aspects of medieval manuscripts access to specific folios which contain illuminations, decorations, or marginalia of note. Interactive tools may eventually be appended to the e-edition—text-based and graphical MOOs and/or MUDs,³¹ chat rooms, video conferencing—which will permit readers of the text to communicate with other readers viewing the edition on the other side of the country or the globe.

As is clear from this list of possible features in an e-edition, the editor will continue to have a pivotal, indeed expanded, role in the presentation of a text. Paradoxically, though, editors of an electronic edition like the one I am proposing will be forced to relinquish certain aspects of control over the text. The reader now has the choice to see a level of the text previously reserved for the editor alone (i.e., access to images of original manuscript folios and to transcriptions of all manuscript witnesses of a text) and is thereby empowered to examine two types of textual relationships: intratextual (in the case of multiple versions of a single text) and intertextual (between different texts, some of which may not have been previously available). In the process, the reader will make value judgments which may deprive not only certain readings of a given manuscript, but also certain canonized texts. The result may be the destabilization of the existing canonical hierarchy.

Reader-centered, subjective reshaping of the text and the canon, reminiscent of reader response theories and Kant's concept of subjective value, is also at the heart of the concept of hypermedia.³² In her study of the organic, rhizomorphic nature of

³¹ MUDs refer to "Multi-User Domains" (also called Multi-User Dimensions, Dungeons, and Dialogues). MUDs are text-based or graphical virtual environments in which individuals, using an avatar, communicate in real-time with others. The popular computer game "Myst" is a kind of MUD. A MOO ("Multi-User Domain-Object Oriented") is a type of MUD. Object oriented systems are used in computer science and software engineering as a programming paradigm (Sun Microsystems' "Java" is such a programming tool). The object-oriented-programming (OOP) paradigm involves viewing an object as not only a collection of information, but also, packaged with that information, methods for accessing, viewing, and modifying that information. In this sense, an object is self-contained; the data and the software needed to use them are merged into the objects. On the MOO and MUD interface, see papers presented at the session entitled "Spatial User Interface Metaphors in Hypermedia Systems" at the European Conference on Hypermedia Technology, Sept., 1994, Edinburgh, Scotland. See also several papers on multiuser virtual environments at the MOOsaico-Multilingual Virtual Community site <http://mes01.di.uminho.pt/RVirtual/AMB_VIRT/papers/pap_virt.en.html>. In particular, see Pavel Curtis, "Mudding: Social Phenomena in Text-Based Virtual Realities," also accessible at <ftp://parcftp.xerox.com/pub/MOO/papers/DIAC92.*,1992>. On the pedagogical use of MUDs and MOOs, see Tari Lin Fanderclai, "MUDs in Education: New Environments, New Pedagogies," *Computer-Mediated Communication Magazine* 2 (1995), 8–10.

³² "In the order to distinguish whether anything is beautiful or not, we refer the representa-

electronically-mediated exchanges such as hypermedia and the role of the user in hypermedia connections, Kathleen Burnett offers particularly instructive comments. "Hypermedia design is rhizomorphic in its sustenance of heterogeneous connection, because there is no systemic hierarchy of connection. The perception of connectivity is entirely left to the user, though the pre-existence of particular connections may foster varying user perceptions of overall structure."³³ Burnett goes on to describe the ways in which the decentralized nature of hypermedia permits multiple points of access to an infinite number of hyperlinked materials, all of which encourage and support "non-hierarchical thinking and cognitive jumping" in the user.³⁴

Given the organic and user-centric qualities of electronic hypermedia editions, therefore, the traditional concept of the literary canon cannot fail to be affected. Burnett has labeled this process "the principle of asignifying rupture."³⁵ In any traditional canon, consisting of a select number of "best texts" and "deserted island classics" as determined by specific socio-economic, institutional, or ideological groups, simple expansion would overload the hierarchical structure of the canon and undermine its stability. As David Richter has stated, the canon "has an ecology that forbids unlimited expansion: when something is added, something else must go."³⁶ The organic nature of the hypermedia paradigm, however, permits new texts to be added to it and to be linked to each other along associative trails. Rather than weakening the network, the inclusion of new texts and building of associative trails causes the nodes and threads of the textual web to multiply and the stability or tightness of the weave to increase. As Burnett explains it, "the introduction of non-canonical texts and authors into the canon disrupts the foundations of the canon altogether. In contrast, hypertextual design encourages such disruptive activity while rendering it insignificant. Since the structure does not rely on any given theory of relationship, it cannot be affected by the characterization of a new relationship previously alien to it."³⁷ In the print world, there is not

tion, not by the understanding of the object for cognition, but by the imagination (perhaps in conjunction with understanding) to the subject and its feeling of pleasure or gain. The judgment of taste, therefore, is not a judgment of cognition, and is consequently not logical but aesthetical—which means that it is one whose determining ground can be *no other than subjective*" [emphasis added] (Immanuel Kant, *Critique of Judgment*, trans. J. H. Bernard [1914; reprint, New York, 1951], p. 37, cited in Guillory, *Cultural Capital*, p. 275).

³³ See Kathleen Burnett, "Toward a Theory of Hypertextual Design," <ftp://ftp.lib.ncsu.edu/pub/stacks/pmc/pmc-v3n02-burnett>, 26 July 1996, pp. 1–12, especially pp. 7–9 (originally published in *Postmodern Culture* 3, no. 2 [1993]).

³⁴ Ibid., p. 9.

³⁵ Ibid.

³⁶ Richter, *Theory*, p. 109.

³⁷ Burnett, "Design," p. 9.

enough room on Parnassus for everyone; on the World Wide Web and in hypermedia, “conventional notions of completeness and boundary do not apply.”³⁸

In conclusion, therefore, I would suggest that the deproblematization of scale afforded by electronic and web-based delivery of text has created a propitious time for a shift from the traditional idea of a single or absolute canon to the idea of a “polycanon” modeled on the organic concept of hypermedia and reminiscent of Mikhail Bakhtin’s dialogic vision of society.³⁹ In Bakhtin’s vision, independent, polyphonic voices meld together to produce a unified entity. In the “polycanon” as I see it, the works found in a plurality of independent and diverse literary canons—medieval, feminist, black, Marxist—would be made available electronically, forming an organic “docuverse” reflecting our cultural history. Works within each canon would be linked intratextually to their own multiple versions, as well as intertextually to contemporary and subsequent works within and outside that particular canon. In the polycanonical docuverse, for example, room would be made beside the now-canonized version of Chartier’s poem (Grenoble MS 874) for all of its other manuscript versions and for versions of all of the poems in the cycle. Related works by other authors from other periods, languages, and genres would be linked as well. For readers to navigate and query the vast amount of textual data that will reside in this docuverse, intuitive interfaces and efficient data retrieval systems would need to be created. A utopian vision, perhaps, but only in such a model of open and hyperlinked access, may we, as Lillian S. Robinson has written, “come closer to telling the (poetic) truth.”⁴⁰

³⁸ Bolter, “Electronic,” p. 43.

³⁹ Mikhail M. Bakhtin, *The Dialogic Imagination*, ed. Michael Holquist, trans. Caryl Emerson and Michael Holquist (Austin, Tex., 1981). Coincidentally, this term echoes the title of one of Alain Chartier’s own political works, *Le Quadrilogue invectif*, ed. E. Droz (Paris, 1950).

⁴⁰ Lillian S. Robinson, “Treason Our Text: Feminist Challenges to the Literary Canon,” in Richter, *Theory*, p. 157.

