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THE ELECTRONIC JOURNAL

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An electronic journal exists only in electronic media, not on paper. While no such full-fledged journal has yet been created, the technology is arriving, and experiments are underway. It will become as familiar as the railroad finally became. The forces which will cause the demise of the paper magazine along with the paper newspaper and the paper letter are growing. The king is dying, long live the king.

The experiments in question, however, are in fields rather distant from ours, and discussions have been from other perspectives. We ourselves must define the system we need or others, not knowing our wishes, will define it for us. For the purposes of this article, then, the journal is understood to be a non-profit publication in the humanities from which neither the editors nor the contributors receive significant direct payment. All work for the excitement of advancing knowledge and because they are provided time for research and rewarded for publishing it by third parties, such as universities. It is also assumed that salaried staff, if any, is paid for from some other source than journal revenues.

Electronic publishing makes information available by placing it

in the storage medium of a host computer.¹ Readers are linked to this host using computer terminals and telephone lines, and retrieve information from it either piecemeal or in bulk, according to their needs. Automated retrieval of information on pre-selected topics is possible. The industry-to-be is emerging from two traditions. The first is the mainframe computer and the large database, which are gradually being linked to larger numbers of simultaneous users and extending their coverage from the sciences into the humanities and arts. The other is the computer bulletin board, which allows callers to insert (upload) text or programs which can be retrieved by other callers. These hobbyist operations, serving one caller at a time, are giving birth to businesses which can afford more powerful, multi-user computers.

Problems remain to be solved. One is the system for accommodating foreign language characters, tabular material, and illustrations. Another is the need for electronic coding: what indicates a paragraph division, what a section division, and by what system are footnotes incorporated? Solutions exist, but there is as yet no standardization. Costs need to decline considerably before electronic publication can replace paper. My purpose, however, is to try to outline the nature and new problems of a scholarly world in which these problems have been solved.

The prospect of *Editors' Notes* and all our other professional

¹ For an introduction, see May Katzen, "Electronic Publishing in the Humanities," *Scholarly Publishing*, 18 (1986), 5-16, and the other articles in that issue; also Patricia Battin, "The Electronic Library: A Vision for the Future," reprinted from the summer 1984 issue of the *EDUCOM Bulletin* as Scholarly Communication Reprint 2 (Washington: Office of Scholarly Communication and Technology, n.d.).

publications existing only in electronic form may appear threatening. One would seemingly have to sit uncomfortably in front of a computer, or print materials out prior to reading them. Yet computer printers are continually getting faster and better, and reading on a screen will become much more comfortable. A cordless terminal, like the cordless telephone, could be used anywhere within a house. The size, font, and color of letters on a computer screen are already somewhat subject to user adjustment. This article, for example, is displayed before me in white letters on a green background. If these colors get tiring, they can be changed with a few keystrokes.

However, reading via computer will always require some source of power, and thus will never be as convenient as reading from paper. It may be impossible to match the contrast provided by black ink on white paper. Nevertheless, computer reading of electronic journals will come because these disadvantages will be clearly outweighed by advantages, just as the advantages of the typewriter outweighed those of the more flexible pen, and the printing press triumphed over the manuscript copyist.² One obvious advantage of the electronic journal to the scholar is the elimination of backlogs, other than those in the

² In the process having a crushing effect on non-Western languages, such as Arabic, less readily adaptable to printing. It is forgotten what a comfortable place the world of manuscripts could be. All texts were equal; there was no distinction between the “published” and the “unpublished”; manuscripts and knowledge were shared, and scholarly competition was almost unknown. As one did not have to find copies of books to purchase, merely a text to be copied, the creation of a library was a far different task. In certain centers—medieval Cordoba or Baghdad, for example—an army of copyists was at the scholar’s disposal. Microfilm and the photocopy machine have partially recreated this situation.

editorial process. No more preprints, nor offprints either; no more delays in disseminating the results of one's research; no more waits while journals are at the bindery. Every article is immediately available to all readers as soon as it has been approved for publication and edited.

That delays in publication, other than editorial delays, would disappear is a consequence of the greatly reduced costs of electronic publication. While there would still be the electronic equivalent of a copy editor, there would be no typesetter, no printer, paper vendor, binder, nor postage. In contrast with a database or index, there would not be the costs of data creation and entry, as the author would supply the file containing her article. There would be, of course, the cost of maintaining the host computer and its storage devices, and the costs of the telephone connection and the user's computer terminal. All of these have declined dramatically over the last ten years, a trend which will surely continue. (The decline in the costs of data recording and transmission parallels the development of civilization.) The journal editor would be freed of most of the financial limitations on scholarly publishing. With greatly reduced costs, why wait to publish research that is ready for its potential readers? It may be that the concept of the journal "issue" or assemblage of materials will also disappear, and that a journal, like a news wire today, will consist of a stream of irregularly-released articles and reviews. A journal could just as well issue monographs, if it cared to, and the division between the article and the book could wither away, with books being long articles and articles short books.

A related advantage is that journals will no longer have to concern themselves with selling subscriptions. Because there will no longer be the costs of printing, there will not be efficiencies of scale. Thus it will not matter whether one has five subscribers or five

thousand subscribers. The business aspects of the scholarly journal will become much simpler.

In the same way, all scholars will have equal access to all journals. They will no longer depend upon middlemen of information, academic librarians, who have finite budgets and can never acquire all the serials their faculties wish, and academic presses, one of whose functions is to rationally allocate limited publishing resources.³ Electronically, every scholar can subscribe to every journal she wishes. The professor at Western Siberia State College will have just the same access to journals as her more urban colleagues. The independent scholar will as well.

What, then, would a subscription to a paperless, low-cost journal be? The coin of this new world is not money but time, of which no one will have any more of than now. When one subscribes to a journal at present, one's commitment is not just the subscription price and the shelf space on which (usually) to store it, but the time with which to read or at least to examine it. A subscription, then, would be an agreement to devote some amount of time, however minimal, to

³ A statement perhaps full of hubris. Academic librarians have been among the leaders in discussing the desired features of this new industry. As a practical matter, however, it would seem unlikely that it will be based in libraries as presently conceived. It will be national or international in its scope, while most libraries have local constituencies; it will require start-up costs in excess of those libraries can raise; the library is too firmly linked with the building housing printed materials. It could, perhaps, be based in a national center similar to the Center for Research Libraries, but the trends in existence suggest rather that on-line publishing will be part of the commercial knowledge industry, rather than the production of any non-profit entity.

a journal on a regular basis.

One form this could take is the request for a sign-on notice. Most multi-user computer systems have the facility to provide each user with an automatic message when first accessing the system on a particular day. A subscription could be a request that one be automatically so notified each time a new article (or some other publication unit) is issued by the journal in question. Once notified, one could delete the notice, save it for possible future use, or read the article, as wished. The subscriber's commitment would be the time needed to delete such notices if uninteresting—only seconds, but seconds are just as finite as minutes or hours. One could not respond to such notices from hundreds of journals, or one would do nothing else.

The function of a journal as an arbiter of quality, as an entity which establishes an identity by exclusion, will become clearer. All that would stop each scholar from being her own journal is the time of the potential readers. No doubt the number of journals will continue to increase, and specialization as well, but few would have the time to subscribe to "Professor X's Journal," which contained the writings of Professor X, "Professor Y's Journal," and so on. It would take too much time, and have too high a proportion of dross. What the editor offers the subscriber in return for that minimal commitment of time is the promise that her time will not be wasted. The editor saves the subscriber time by inspecting articles for quality, and often helping improve them, before issuing them under the journal's name. The editor, of course, uses her own time, along with experience and knowledge, to save that of the reader, exchanging time for the small amount of power that editors possess.

A number of policy questions will arise under the above-mentioned system. One advantage of electronic over paper publication is ease of revision. If the author of an article wished to revise it, a new,

updated text could easily be substituted for the old. The impact of unlimited revisability upon our writing habits and on the nature of the scholarly article are topics on which I am not prepared to speculate, although they will surely be positive. One need, however, will be a system to identify revisions. Is one reading the 1999 or 1997 revision of an article, or the 1995 original? And how to avoid misunderstandings based on the use of such differing versions? Each version of an article could have a revision number, as do computer programs and engineering projects subject to revision. More important, and seemingly the only practical policy, is that superseded versions remain available to those who request them, and—something not available at present—the changes between each version and its replacement be summarized.⁴ One could lead the reader to the most up-to-date text, yet one could not suppress something published, any more than at present. Once one has published, published it stays.

At times an author wishes to release something on a provisional basis, to see “what people think” before publishing it, or because work on it is not yet completed. One way to do this is by sending the article to a desired recipient through the (electronic) mail. More efficient, however, and also more accessible to those interested would be self-publication. Self-publication, in an electronic publishing world, would be the loading of material into some “area” of the system without automatic notification of anyone. (The author could manually notify anyone she wished.) This would also be a check on the power of editors, for it would provide a somewhat less convenient channel for communication among those dissatisfied with journals

⁴ There already exist several microcomputer programs which will identify and display the differences between similar but differing texts. An author’s explanation of the revision is, of course, far more valuable.

available. Such material could be “killed” or deleted by its author at will. As no one other than the author had spoken for its value, perhaps such materials should have an automatic deletion date, and be indexed less comprehensively. If they are accepted for publication by a journal or similar entity, they would become permanent.

What when scholars wish to start a new journal, one of different scope or standards? The system would surely make that as easy as possible: as soon as there is an editor and one or more subscribers who communicate their interest to the host system manager, the journal exists. Similarly, a journal which loses its last subscriber would cease publication, as would one that does not publish anything within one or two years. Provisions will be needed to prevent abuse: that one must use the system as a reader of scholarship for three years before being able to be an editor, that no one could start more than one journal a year, that no one could simultaneously edit more than two journals, or some similar guidelines which could be easily enforced. If the number of subscribers a journal has, and perhaps its year of establishment, were displayed along with its title, this would protect against misleading use of titles. It would show, say, that *Shakespeare Quarterly* is a major journal, and that a hypothetical *Journal of Shakespearean Tragedy* has less claim to our attention.

Another feature of electronic journal publication will be the ease with which readers’ notes can be attached to an article. At present reader reaction to articles is limited to two forms: a new article dealing with the same or a related topic, and the letter to the editor, the latter usually restricted to serious objections. There is no way by which a reader can post a note with an additional example, a query, a suggestion, agreement. Neither is there a standard way for an author to request assistance or to attach “further reflections” to her article. Some software already permits the attaching of electronic comments

to specific points in a text, invisibly unless display of them is requested.

Some authors might find offensive the idea of reader comments attached to and distributed with their articles. Posted comments might not always be constructive. Therefore, the editor and the author should have the power to delete comments. In the case of a controversial or deficient article, to which readers have major objections, the forum for such is the new article, citing the previous one. In an on-line publishing world, it would be much easier than today to move quickly from a given article to those later articles in which it was cited.⁵

A similar question of journal autonomy is that of control over its electronic mailing list. More easily than at present, one could send each subscriber a letter or advertisement. It only seems practical to continue the present system of journal autonomy: use of its mailing list is at the discretion of the journal. While the number of subscribers would be known to all, as at present, the names of the subscribers would continue to be confidential to all but the editor.

This policy would not just favor journals, but would be part of a right to privacy which is now well established in library transactions. I cannot at present find out from a library who has borrowed its copy

⁵ The most useful tools which computerization has so far given scholars in the humanities are the *Arts and Humanities Citation Index (AHCI)* and its companion publication, *Current Contents / Arts and Humanities*. They permit one to take a text or piece of scholarship and trace its influence forward; they would not even have been thought of without computerization. As they are not promoted heavily, and the Modern Language Association seemingly views them as competitors, they have remained seriously underused.

of my book; without a warrant the police cannot do so either. Electronic communications have rapidly been receiving the same legal right to privacy as telephone conversations. Electronic readership will be similarly protected.

It would be foolish, however, to completely discard the potential the system would offer to maintain contact with the readers of an article. Although there seems to be less of it, fraudulent research exists in the humanities as well as the sciences.⁶ There are in my own publications a number of errors to which I would like to alert readers. Surely in most cases readers of an article would be glad to be notified of important corrections. There would be a means, then, for an editor or an author to communicate with all the readers of an article, although they would not know who the readers were who were receiving the correction. Hopefully, as there would not be a financial reward for increased subscriptions, this would not be a means of extending invitations to subscribe.⁷

⁶ A forged text purporting to be a lost work of Federico García Lorca (*La niña que riega la albahaca y el príncipe preguntón*) has been the subject of at least one article, and may be found in the OCLC library database. In two recent cases with which I am familiar American scholars claimed that they discovered texts which were not unknown.

⁷ The number of readers being of course greater than the number of subscribers.

There is no ethical reason an editor has to know the names of her subscribers, either. However, some editors, especially of smaller publications, would be reluctant to serve if they were editing “blind,” without knowing who the recipients of their efforts were. Presumably, as at present, a subscriber is at least willing to have the publication know she is subscribing.

In none of the above is any question of editorial policy addressed. Electronic publication is a separate matter from editing; the former concerns distribution, the latter content. There is no such thing as electronic editing. The editor can and will use electronic mail, and computer programs which inspect and manipulate texts at an elementary level, checking the spelling of words not homonyms, that quotation marks and parentheses balance, and the like. But the core of the editorial process—thought and judgment—is unaffected by electronic publication. Similarly unaffected is the procedure by which a decision to publish is reached. Throughout I have been speaking of “the editor” as if there were only one, and she made an individual decision. Journals actually handle decision-making, as well as editorial revision, in many different ways. This will continue much as before. Electronic publication will have no more influence on that process than typesetters and printers do at present. All that electronic publication needs is that the journal be able to arrive at decisions and communicate its wishes. Almost surely there will be a password system, as is commonly used today with bank teller machines. The one or ones who know the journal’s password implement editorial decisions, thus issuing material under the journal’s name.

It might seem at first glance that electronic publication would have serious implications for our academic reward system (tenure, promotion, raises). If publication does not involve a financial commitment on a journal’s part, and if the number of journals increases, how much weight are outsiders to give to decisions to publish as indications of quality? Is the peer review system able to cope with easier, and therefore more abundant, publication? How are standards to be maintained? They will be maintained, I believe, much as at present. Some journals will continue to be painstaking in their editorial work, and publication by them will be a significant endorse-

ment. Others will not be, and just as today it will be possible for articles to get published without meaningful peer review.⁸ Scholars' and journals' reputations will be assessed by senior scholars, and scholars will become senior through the collective judgement of those who read their writings. Word of mouth, including (what else?) electronic word of mouth, will be just as important. Citation or readership statistics will not be accepted as indicators of scholarly worth.

The most serious problem concerning electronic publication is much less obvious: the absence from the system of those who cannot afford to participate in it. Colleges will ensure that their students as well as faculty have access to it. The general public is perhaps not a problem; the general public does not read scholarly journals, at least not in my area. More serious is the question of access by scholars in the third world. The participation of South American scholars in such a system, for example, will be long delayed for economic reasons. Not only are computers much more expensive there, the cost of data

⁸ "There seems to be no study too fragmented, no hypothesis too trivial, no literature citation too biased or too egotistical, no design too warped, no methodology too bungled, no presentation of results too inaccurate, too obscure, and too contradictory, no analysis too self-serving, no argument too circular, no conclusions too trivial or too unjustified, and no grammar and syntax too offensive for a paper to end up in print" (Drummond Rennie, senior editor at the *Journal of the American Medical Association*, quoted in the *New York Times*, February 16, 1988, p. 15). If this is true, it makes the impoverished humanities seem rather intimate. Yet something of the same is true in our fields: as we get "richer" in publishing resources per scholar, the average quality cannot help but decline. That important scholarship is not just proportionally but absolutely in decline is not at all apparent.

links with the U.S. is also very high, quite out of the reach of university as well as individual budgets, and local telephone lines are often inadequate as well. It is worth remembering that some very good research and writing is carried out there, under very primitive conditions. Because they cannot afford to subscribe to American and European journals many Latin American centers produce their own publications, one of whose functions is to use in exchanges. The solution would seem to be hard copy: something like *Current Contents* notifying them of publications, and a facility to print out and mail articles, in exchange for their own publications, which we will still need. Paper journals from such areas will be at disadvantage in seeking the attention of North American and European readers, yet we will muddle through somehow, just as we do with journals not indexed in the *MLA Bibliography* or *AHCI*, whose coverage of foreign language journals is spotty. "Keeping up" with them will no doubt be one of the tasks that will separate the women from the girls.

A similar problem which has a less obvious solution is the reinforcement which the computer is giving the English language. While this is not primarily a journal-related problem, it is certainly a question for humanists to ponder. Computers have been designed around the language of their designers, English. Other languages are accommodated imperfectly, as adaptations of English-language systems. Databases and indexes are even more English-oriented (the article in German is indexed using English subject terms). While to us it is convenient to have English as the language of scholarship, there are costs as well. It weakens the rewards to English-speakers for learning another language, while for foreigners it reinforces further the rewards to them of learning English. We will be, even more than today, monolinguals in a multilingual world.

But to conclude on a more optimistic note, computerization is

having a positive effect by encouraging literacy, a counterbalance to the oral and visual pressures of the telephone and the motion picture. Computer terminals are requiring people to read and to type. Learning typing is even much more fun than before (because there are game-type programs that teach it). Among young people the skill is much more common. More people are doing more writing. This writing is becoming better: computer programs to assist writers are at a primitive level, but even attention to the principles in Strunk and White (which programs can do to an extent) is itself a big step forward. Better writing is better thinking.

Because transmission of written words is cheaper than the transmission of voice and far cheaper than moving individuals around the country, the computer meeting is going to replace some (though not all) of the functions of the academic convention. Again, this is already taking place: on-line meetings are common in some fields, chief among them the computer field itself. Such meetings have their own etiquette and protocol; as they are much less expensive they can be, if desired, much more frequent. One could have a weekly national seminar of Chaucer scholars.

Finally, humanists would do well to start thinking about the coming digitalization of our literary and historical texts. Because of the imagination and dedication of Theodore Brunner and his former student Marianne McDonald, classicists have available in computerized form all ancient Greek texts from the times of Homer up to A.D. 600. On optical recording disks (CD ROMs) they can be purchased for under \$100,⁹ and one can search through the texts in a way almost

⁹ Theodore F. Brunner, "Data Banks for the Humanities: Learning from *Thesaurus Linguae Graecae*," *Scholarly Communication*, No. 7 (Winter, 1987), pp. 1, 6-9.

impossible previously.

These texts were input using typists. The optical scanner, which is getting cheaper and better, will make it practical to convert printed books into CD ROMS and on-line data files on an even larger scale.¹⁰ What texts should first be input? What editions of the same? Even modest costs must be paid for somehow, and how can this take place, when it is impossible to sell digitalized texts at a price that reflects their costs of creation?¹¹ How will our fields be different when each can have her own copy of all the titles in Wing's *Short-Title List*, or the *Patrologiae*? A topic, perhaps, for another article.

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¹⁰ An overview of the present state of optical scanning can be found in *Computer Shopper*, March 1988, pp. 205-06 and 451-59.

¹¹ Because further copying of it cannot be controlled. While many computer programs have been sold in "copy-protected" forms, this has to my knowledge not been done successfully with data files. The copy-protection of programs, which often makes them less convenient to use, has been very controversial.