

The transformation potential of networked information

By Charles Henry and Paul Evan Peters

Approaches to knowledge creation, dissemination, and utilization

Editor's note: The following essay was originally distributed at the October 1992 meeting of the Coalition for Networked Information. Tom Kirk, one of ACRL's representatives to CNI and ACRL president, believes the authors have identified important elements of the transformational potential of networked information. Further, Tom believes, it suggests ways in which librarians can facilitate the achievement of the transformational potential. He has asked that the article be published in *C&RL News* to give broad distribution of the ideas to the ACRL membership. I am pleased to do so.

Over the past decade the transformational potential of networked information has attracted attention in a variety of academic forums. These discussions have most frequently emphasized types of technology (hypertext, hypermedia, multimedia, and so forth) that enable approaches to knowledge creation, dissemination, and utilization that go far beyond the automation of text and the mechanization of information processing. Often missing in these discussions have been specific information and perspectives from projects that point to a genuine metamorphosis in the way scholarship is transacted.

In truth, it is only recently that a number of powerful and compelling programs have emerged that demonstrate the potential to transform scholarly communication and methodologies. These include large, networked resources, multi-media programs, collections of electronic texts in dozens of languages, electronic edi-

tions of single authors, as well as online journals that allow iterative knowledge development without a fixed text. Examples include: The Center for Electronic Texts in the Humanities (CETH); the Perseus Project; the Thesaurus Linguae Graecae; the Dartmouth Dante Project; ARTFL; the Electronic Pierce Consortium; the Gutenberg Project; the Einstein Papers; the Oppenheimer Papers; the European Visual Arts Center (EAC); the Oxford Text Archive; Psycology; the CORE Project; Project Open Book; and the Text Encoding Initiative (TEI). Many of these programs incorporate networking as an essential aspect of their present or future design.

Program possibilities

The transforming properties of these and related products of invention are wide and deep. These programs explore a range of opportunities and challenges including: the possibility of implementing universal standards for text encoding (TEI); the development of a new electronic knowledge base for humanities research (CETH, OTA, and ARTFL); the construction of a new electronically accessible database for out-of-print and rare materials (Project Open Book); and the expansion of interdisciplinarity in research and teaching (EVAC, Perseus, the Oppenheimer Papers, and indeed, almost all of the projects listed above). They also portend a transformation in disciplines where individuals working in isolation become far more collaborative (access to the Internet has already begun to effect this change), and a metamorphosis to iterative, incremental knowledge in a floating electronic environment in areas where more discrete blocks of knowledge existed before (Electronic Pierce Consortium and Psycology).

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Looking even further to the future, such problems have the potential to eliminate current disciplinary boundaries, to effect profound changes in the tenure process, to merge methodologies more typical of the sciences into

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humanities research, to transcend the demarcation between word, image, and sound, to transform the scholarly publication processes, to redefine the terms 'text,' 'author,' and 'ownership,' to eliminate the centuries-old concept of a fixed source of information and the accrual of clearly defined scholarly interpretation, to contribute to the reorganization of academic institutions, to render printed matter obsolescent, to introduce research methodologies more directly into classroom teaching, and to blur the distinction between graduate and undergraduate education.

It is not sufficient to simply identify and catalog these projects. Even a cursory study of their histories suggests that while these resources

carry a far-reaching transformational potential for scholarship and teaching, they are invariably confronted with challenges and hurdles that threaten their viability and intellectual influence. These challenges include: variance in financial support; variance in institutional support, including the absence of recognition of the value (or at times the existence) of these projects; the disposition in the current tenure system to impute relatively low value to computer-based research and to the development of computer-based teaching projects; obsolescence of hardware and software; and a limited audience, i.e., an audience defined by an interest group categorized by a specialty within a discipline.

Given the transforming capabilities of these projects, the current fragility of the academic environment, it is a responsibility of highest value and return to increase overall awareness of these projects, to frame ways and means for supporting them, and to help improve the climate in which these and similar initiatives are conceived and implemented. A beginning outline of workable means to these ends includes efforts to:

- identify computer-based programs and tools that have the potential to transform current means of scholarly communication and methodologies;
- bring these projects to the attention of university administrators, directors of professional societies, colleagues within specific disciplines, and the creators of other projects to increase the visibility of and appreciation for these projects;
- identify the aspects of these projects that distinguish them as excellent examples of their genre;
- ensure responsive and productive interaction of the perspectives, plans, proposals, and experiences of the constituencies of these projects;
- promote wide accessibility of these projects using the National Research and Education Network and other, related networks;
- promote the development of international standards for networked access to the results of such projects;
- foster intellectual collaboration among a variety of constituencies for such projects and their products; and,
- study and promulgate the implications and transformational potential of these projects. ■

Internet: Path to the 21st century

Indiana Online Users Group (IOLUG) will hold its fall conference entitled "Internet: Path to the Twenty-First Century" on Thursday November 11, 1993, in Indianapolis. The keynote speaker will be Ed Krol, author of *The Whole Internet*. There will also be several concurrent sessions on topics such as the ABC's of connecting, gophers and fop, reference on internet, and e-mails and listservs. For registration information, contact Jim Cannon, IOLUG Treasurer, Indianapolis-Marion County Public Library at 317-269-1741. Fax: 317-269-1768.