

Towards the year 2001

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At the millennium copyright will still be in force, but most university presses may have given up the printed journal and, in some fields, even the printed monograph

Outside the publishing community, copyright has often been viewed in recent years as an obstacle to progress in the electronic age – a legal system that has outlived its usefulness as our ever more wired environment changes the way scholars and other knowledge producers and users communicate. In the USA, the usefulness of copyright has been questioned even within the institution that bears responsibility for the statutory implementation of the constitutional mandate for the copyright system, the U.S. Congress. Thus, in 1986, the Congressional Office of Technology Assessment published a report entitled *Intellectual Property Rights in an Age of Electronics and Information* that spoke about the possible need for a 'new category of law' to deal with at least some of the works spawned by modern technology that now are protected by copyright.¹ And Congress's own librarian, James Billington, clearly was acting on his view of copyright as an obstacle when in 1989 he dismissed the Library's Optical Disk Advisory Committee; he evidently had heard all he wanted from publishers about why he should take copyright seriously and cooperate with private industry rather than set the Library itself up as a publishing entity. (The Library's proposal last year to become a major document-delivery supply source shows that he is still thinking along the same lines.)²

Others, outside government, are also challenging the copyright system. One of the more articulate and radical of them in the scholarly community is Robin Cover, who in a three-part manifesto issued via the online Humanist Discussion Group in May 1991 asked scholars whether they

wished 'to continue their oppressive academic existence as powerless slaves within an economic and legal system which rewards extortion and market-eering of their intellectual property' and called for a 'bloody revolution' (metaphorically speaking, I hope!) against publishers (while admitting, however, that 'not all are equally guilty'). Cover's proposal is to replace copyright with something akin to the shareware concept advocated by the Free Software Foundation as a more equitable and publicly beneficial system for electronic publishing.

Cover's manifesto, while intentionally radical in tone, cannot readily be dismissed by publishers as the product of an extremist fringe; much in it deserves serious consideration and debate. But even Cover, as dismissive of copyright as he is, reveals how difficult it is to escape from copyright conceptually by referring to 'the public domain,' a notion that has meaning only within the linguistic framework established by copyright. There are in any case powerful practical and political considerations that make overthrowing copyright in favour of some other legal regime a hugely ambitious, perhaps even utopian, task. Consider just the following facts about the world in which we live now.

In the wake of communism's collapse, we are poised at the beginning of an era in which, for the first time ever, the entire world may come within the orbit of a copyright regime organized and dominated by western capitalistic states. Much has yet to be accomplished. Negotiations over intellectual property rights are still under way within the framework of the GATT, with the outcome yet uncertain; publishing in the Eastern European countries and within the former Soviet Union is in a state of virtual chaos, with piracy rampant, as the difficult transition to a market economy proceeds – again, with the ultimate outcome still quite uncertain; countries in other parts of the world, such as Thailand and India, recently cited by the U.S. Trade Representative (USTR) as among the worst copyright offenders, continue not to play according to the rules. But there are many positive signs of progress, too. China, long outside the international copyright community, now has a domestic copyright law in place, recently strengthened under pressure from the USTR, and has a timetable for becoming a member of the Berne Convention; laws adopted in the late 1980s in other Asian nations, such as Taiwan, South Korea, and Singapore, are now being more rigorously enforced than ever, with a consequent sharp reduction in piracy; revision of copyright laws in Eastern Europe and the former Soviet republics is under way, with the aim of bringing them more in line with Berne requirements; and centralized copyright permissions systems for photo-

copying have been established in twenty countries under the aegis of the International Federation of Reproduction Rights Organizations (IFRRO). So copyright is succeeding at the international level as never before.

Within the United States, there are also good reasons for believing copyright will not quickly be discarded. At a time of mounting foreign debt, the copyright industries offer one ray of hope for correcting the trade imbalance: the positive balance of trade they generate is likely to become ever greater as piracy overseas is brought more under control.³ One might also predict that, in view of the enormous effort to produce the Copyright Act of 1976, there is no prospect that the Congress, preoccupied with other major issues and suffering from the public's lack of faith that it can accomplish anything useful, will undertake another huge effort like that soon, let alone legislate copyright out of existence altogether. Finally, the conservative Supreme Court is unlikely to present any fundamental challenge to property law in the quest for a more just social order.

Whether one finds this a cause for joy or lamentation, the conclusion seems inescapable that copyright, internationally and within the United States, is here to stay for the foreseeable future; no revolution, bloody or not, looms on the horizon that will free the 'slaves' of copyright from their oppressive publishing masters. The only reasonable approach then is to ask how to improve the copyright system we have to make it work better in the new electronic environment in which we all find ourselves.⁴ The question we must confront is how to reallocate costs to achieve the goals we all seek, not to eliminate copyright as the basic legal framework within which to work towards those goals.

Ann Okerson has suggested, as a response to the 'serials crisis' in research libraries, that universities retain control over the intellectual products that their faculty members create and the way they get disseminated.⁵ Copyright is not at issue here. Nothing in U.S. copyright law, at least, prevents universities from accomplishing that goal; quite to the contrary, the law provides, in its definition of 'work made for hire,'⁶ the ground on which universities could claim total control over all the writing that their faculty members do in their professional capacity merely by stipulating that it is to be considered work done 'within the scope' of their employment as members of the university staff.⁷ If my memory serves me correctly, one Big Ten university attempted to do just that back in the 1970s but retreated in the face of fierce faculty opposition.⁸ I don't believe any court has been asked to rule on the validity of such an attempt; faculty members who oppose it might have an argument to make on the ground of what has long

been traditional practice, but on the face of it, the law seems to give universities an even stronger argument. Mind you, I am not recommending this as a strategy. And there would be legal consequences to contend with – such as the different duration of copyright for works made for hire under the U.S. law, not to mention the perhaps highly undesirable incentive the approach would create for beefing up the legal staffs of universities so that they could negotiate all those contracts, at interminable length, that individual faculty members now so quickly (and, some would say, thoughtlessly) sign.

One could also say that universities missed the boat by not taking the initiative many years ago to provide on-campus photocopying services for their faculty members and students. Instead, they ignored the increasing demand for photocopying and allowed commercial companies to move in, often right across the street, and make a tidy profit from that business.⁹ One can only speculate, but I think it is fairly safe to predict, that publishers would not have been so aggressive, albeit belatedly, in suing photocopiers if they had sprung up under the protective mantle of educational institutions as operating units within them rather than as separately owned, for-profit enterprises. The copyright law certainly makes it easier to be successful in suits brought against commercial businesses than in suits directed at non-profit organizations. Universities, had they had the foresight, could have avoided the problems their faculty members and students now face in using photocopied material by setting up internal systems to handle photocopying – as, indeed, Northeastern University did many years ago in making use of its university press as a combined Kinko's and Copyright Clearance Center in a model program that, unfortunately, was all but ignored by other universities.

There can be no question that technological changes pose major challenges for a copyright regime; but those challenges are not so major that the law cannot be adapted and must be abandoned. Copyright after all has faced challenges before. Photocopying was a challenge of comparable magnitude, also the result of technological change, but most of us in publishing now believe the tiger is finally being tamed – internationally, by the growth of reproduction rights organizations (RROs) throughout the world under the aegis of the IFRRO, and domestically by the renewed impetus for centralized permissions clearance mechanisms provided by successful litigation.¹⁰

If the problem does not lie with the concept of copyright itself, where must we look for solutions? I believe they have to be sought in four areas: 1 / technical devices; 2 / licensing agreements; 3 / the reallocation of eco-

conomic costs (and, associated with that, a restructuring of the publishing industry, at least the scholarly division thereof); and, finally, 4 / moral education. Each of these topics could be the subject of an entire essay; I shall make only a few observations about each.

Technical solutions seem unlikely, ultimately, to offer the most satisfactory approach. My expert adviser, Sue Lewis, journals manager at the Pennsylvania State University Press, suggests that journals could be protected against unauthorized copying by encrypting and compiling each article and appending a copyright notice with the user's name and institution. Involved here are the 'public key/private key' technology now used by, for example, the Adobe Type Library and about to be used by the Apple Company for its recently announced Open Collaboration Environment and also the 'embarrassment' factor relied upon by Microsoft and other software producers as a deterrent strategy in the form of the ever-present copyright notice and user's name. This kind of solution works best no doubt in a closed environment where careful monitoring is possible, which is the characteristic common to the four experimental projects the Copyright Clearance Center (CCC) now has under way in its Electronic Access Pilot Program. It seems less applicable to the open environment of scholarly communication via the Internet, and there it will encounter the stiff opposition of academics such as Robin Cover, who proclaims, 'In my view, encrypted data and bundled proprietary software should be vigorously anathematized, castigated, excoriated, belittled, boycotted and otherwise opposed – just as we have for copy protection schemes.' (Despite the abandonment by Microsoft and other software producers of those schemes, there has been no lack of enforcement of copyright protection in the software industry; in fact, in the last two years in the United States, the Software Publishers Association has brought 133 suits and won settlements totalling \$3.4 million.) While one may be sceptical about technical solutions, at least as applied to Internet-type communications, it would be unwise to underestimate their possibilities. Some lessons might be learned, for instance, from the agreement reached between the recording industry and the Japanese producers of digital audiotape (DAT) recorders, which if it becomes law will impose a requirement upon the manufacturers of DAT equipment to build in a device that will make multiple copying technically impossible. This kind of approach has also been discussed as a possible strategy to apply internationally. The STM (Science, Technical, Medical Publishers) International Group has proposed a worldwide legal agreement that electronic reproduction machinery contain a checking and recording element that would allow publishers to exercise their rights. It would be

carried out on the basis of an agreement between authors, publishers, and hardware technologists, under which machinery would be structured in such a way that any storage or reproduction of copyright text in or by way of an electronic or electro-optical device would be checked and recorded – and that technical solution would be backed up by legislation.¹¹

Whatever the potential for technical solutions may be, I do not hold out as much hope for them as for creative licensing agreements. We are at only the very earliest stages of developing sophisticated licensing agreements to cover electronic systems for communication in the scholarly world, but now that we are past the initial 'fear and trembling' inspired by rapid technological change, there appears to be a genuine desire to tackle the licensing challenges head on. The best evidence of the widespread sense of urgency about getting ahead with the task is the overwhelming response generated by a call for volunteers by the Coalition for Networked Information (CNI) to participate in its READI program, which is focused on devising contractual mechanisms suitable for electronic publishing. In June CNI convened panels of experts in New York City to draft preliminary reports on what is needed, and these are being circulated to an even wider circle of volunteer advisers for comment. The CCC's pilot projects also bear mentioning as significant experiments in creative licensing. We should all heed the sage advice of Joe Alen (CCC's acting president, and also current secretary-general of IFRRO), who writes about the results of CCC's program to date: 'It has become clear that flexibility, simplicity, and cooperation are the *sine qua non* for licensing – collective or otherwise – in the electronic environment. Through careful analysis of the potential for electronic access and careful listening to the concerns of all parties, users and rightsholders can adapt approaches, attitudes and systems. No one has all the answers. Rich experimentation is necessary. Ease of use and simple processes and procedures are essential if the needs of all the various players are to be met. Above all, good faith cooperation among publishers, users and RRO's is necessary if the vast rewards of collective licensing in the electronic environment are to be equally realized by all concerned.'¹²

Licensing alone will not provide all the answers, however. Recently my press was offered a licensing agreement from the Information Access Company, one of the largest suppliers of CD-ROMs to libraries. It wanted to put two of our humanities journals into its Expanded Academic Program, which involves both CD-ROM and online supply of some 1000 scholarly journals in full-text form. I am still seeking enough information about CD-ROM distribution to make an intelligent decision about the licence. This is

proving more difficult than I had anticipated. The reason is that there is simply no way of knowing what impact including our journals in the program will have on their survivability in print form. Much depends on how librarians make their own decisions in the future about whether the journals will still be needed in print form when they are available on CD-ROMs. It is quite conceivable that, within the time frame of three years that was included as part of the licence, the impact could be devastating and could drive these journals, now barely self-supporting in print form, into economic suicide. Is that a price any publisher wants to pay for the admitted great convenience of having the journals available in electronic form?

The question is one element in the broader soul-searching now engaging all of us in scholarly publishing, about what our future roles can, and should, be. It is not really a new question. I raised it in testimony I presented to Congress way back in 1973:

For all their universally recognized value to the advancement of scholarship – indeed, their indispensable contribution – scholarly journals seldom pay their own way through income received from subscriptions and advertising, at least for a very long time after publication is initiated and sometimes never ... It is no solution to sell the journal at a price that will ensure its economic viability, however high the price may have to be. For, unlike a book, which as a more or less unified treatment of a single subject can be sold even at a high price to those individuals who have a special professional interest in it, a journal typically provides a general forum for the discussion of a range of diverse issues within a broad field of inquiry, not all of which are likely to be of interest to the individual who subscribes to it; hence, raising the price of the subscription is apt to make the alternative of photocopying those articles of particular interest to the professional relatively more attractive than continuing his subscription.

And here is the rub, as far as publishers of specialized journals are concerned. For as the costs of printing and publishing inexorably rise, and the charges for photoreproduction increasingly become cheaper, the journal publisher finds himself unable to pass on the higher costs to the consumer, who at some point on the scale will prefer photocopying to subscribing. The final result, if carried to its logical end, of course is self-defeating: the erosion of the journal's subscription list will sooner or later compel the publisher to cease publication of

*the journal altogether – and then the scholar will have nothing to copy. The publisher, the scholar, and the rest of us will all be poorer as a result.*¹³

Aside from my failure to predict the degree to which some publishers could succeed in passing on much higher costs (including substantial profit margins, librarians suspect) to their journal subscribers, at least the institutional ones, and my excessive optimism about the willingness of individual scholars to continue buying monographs at ever-higher prices, this scenario pretty well describes where we have arrived now. Electrocopying only makes the trade-offs more disadvantageous for the publisher and adds greater momentum to the trend.

As director of a university press publishing nine journals in the humanities and social sciences that all stand to succumb eventually, some sooner than others, to this kind of development, I have to ask myself why we should continue to be a journal publisher. There has been good reason, economically, in the past to do so: journal publishing has been an offsetting device, sustaining even cash flow against the drainage that comes from monograph publishing. The two types of publishing balance each other perfectly, income from the one coming up front to help pay for the cost of producing the other, which returns income only very gradually over time. In a sense, journal publishing has functioned for university presses as a kind of in-house 'profit centre' that subsidizes the money-losing activity of monograph publishing. But now both kinds of publishing seem to be imperilled – monographs because libraries have reallocated resources to pay for costly scientific journal subscriptions, to the detriment of monograph purchases, and now journals because of the competition from electronic means of delivery, which does offer many advantages over slower, more costly, non-searchable print publication.

Once the economic benefit to presses of journal publishing disappears, I submit, much of the rationale for continuing to publish journals disappears as well. For university presses do not play the same role in adding value to journals as they do with monographs. They do not, for instance, carry out the peer-review process; that is handled by the academic editor. Most aren't even responsible for the copy editing; the managing editor in the academic editorial office takes care of it, or has it done by freelances. Presses do for journals only what could equally well be done by a company such as Information Access. So why not let academic editors either handle distribution directly in electronic form over the Internet, as the new experimental electronic journals are already doing, or else deal with companies

such as IAC that provide the types of packaging services via CD-ROM that seem in demand these days? Some presses, perhaps only the largest with substantial investments in their journals operations, such as Chicago and Cambridge, may manage to produce and market electronic products themselves; otherwise, I don't see a long future ahead for journal publishing by university presses, especially the smaller and less well funded ones. This scenario contrasts sharply with the hope expressed by some that university presses can ride to the rescue of libraries and take over scientific journal publishing from the commercial sector. That will not happen – at least, it won't unless university administrations suddenly become enlightened and begin ploughing vast sums of money into their presses. Right now most universities (including my own) are telling their presses that they have just so many years in which to become completely self-sustaining – or else! (Universities will ignore at their peril the fact that the potentially profitable books that might make a press self-sustaining also involve more direct competition with well-established commercial firms, greater up-front investments, and higher speculative risks than the much more conservative kind of publishing that concerns them now.)

But it is not only journal publishing that will undergo change within university presses; monographs, in some fields at least, are now on the point of becoming endangered species, and presses will have either to abandon these fields altogether or to find some viable alternative form of publishing. Here electronic publishing may be the wave of the future for university presses that still remain committed to the role they were originally established to perform. At a meeting of the heads of the Big Ten university libraries and the directors of the Big Ten university presses, the first ever, held in April in Chicago, I floated a proposal for a pilot project in electronic monograph publishing that received an encouraging welcome.¹⁴ The idea would be for the Big Ten presses to continue performing their functions of peer review and copy editing – the 'value' added by their staffs – but then, instead of having the monographs set in type, printed, and bound for storage in a warehouse and later distribution through normal book channels, the presses would deposit them in an electronic database maintained by the Big Ten libraries under the auspices of the Committee on Institutional Cooperation on the CICNet. The electronic monographs would be available at terminals for viewing and downloading throughout the Big Ten (and for printing out, on demand, via equipment such as Xerox's Docutech system) and, by extension with proper licensing to help recover costs, at other universities across the country via Bitnet or the Internet. Given the size of the Big Ten consortium, this could be a useful

experiment in modes of licensing and cost recovery that then could be applied elsewhere. A major foundation has already indicated preliminary interest in providing some seed money to help the experiment get off the ground, and we expect to make progress on implementing it within the coming year.

All of us at the meeting recognized that the greatest obstacle to making the experiment work would be the resistance of faculty members to accepting electronic publication as equivalent in value to traditional hardback monograph publication for tenure and promotion purposes. We thought that, by selecting a field or two where scholars now already have no choice but to accept publication in this form or not at all because of the economic unviability of hardcover print publishing, we could get such a project off the ground; any success would erode, over time, resistance to electronic monograph publishing in other fields.

My scenario for the future, then, looks something like this. By the year 2001, presses will have abandoned much of traditional monograph publishing in print form: such activities will have proved economically unviable, and universities will have refused to make major additional investments in their own publishing operations or to join cooperatively in sharing costs among all universities. Instead, presses will be concentrating more on publishing scholarly works of synthesis¹⁵ as well as titles that have appeal to a broader public – books of regional interest, for instance, or what commercial publishers call mid-list trade books. Those presses that haven't abandoned publishing journals altogether will offer many in electronic form only. But a good deal of both monograph and journal publishing will have devolved back upon professional associations, which will themselves be able to handle the necessary peer review and, via membership rosters, distribute monographs and journal articles electronically over networks to the primary scholarly audience who will need them. Librarians will more than ever have become specialists in facilitating 'just in time' access, both in providing sophisticated searching capabilities (via indexes, abstracts, and the like) and the technologies (hardware and software configurations) to support them.¹⁶

Will something of value be lost in this process of restructuring? Possibly, yes. One of my fears is that, if too much of hard-core scholarly publishing comes to be monopolized by professional associations, disciplines will lose some of the vitality and freshness that now arise from the multiplicity of publishing outlets (and peer-review processes) that are afforded by the some one hundred university presses. Such pluralism provides – indeed, often encourages – opportunities to challenge the 'conventional wisdom' by

supporting the work of young scholars and those in marginalized fields who want to tweak the noses of the Establishment. Just think: if professional associations controlled all scholarly publishing, what would the chances have been of women's studies' becoming a dynamic and now almost, though in some quarters still grudgingly accepted, respectable field of interdisciplinary scholarship? I submit that it took a lot of dedicated editorial staff within university presses to help make this 'revolution' possible!

My final point, about moral education, can be put briefly. All too often, but sadly in my opinion, players in the academic game conduct themselves as though only their own immediate and narrow self-interest matters. If they can get something for nothing by stealing copyright material, whether in photocopy or electronic form, they do it without batting an eye or feeling any pangs of guilt; indeed, it is shocking how brazenly some academics go about infringing others' rights, either for their own personal benefit or for the benefit of their students. It is also depressing to consider how unselfconscious academic scientists appear to be in pursuing their own career advancement to the detriment of their colleagues in the humanities and social sciences. The latter pay, literally, for the costs involved in keeping the scientific journal engine chugging onward; it is their monographs and their journals, on which they depend for validation of their academic worth, that are apt to be sacrificed by librarians under the pressure exerted by the politically more powerful scientists to maintain their expensive journal subscriptions.

What everything boils down to in the end, then, is ethics. Moral myopia has been the cause of much of the trouble universities have brought upon themselves. Maybe this is no surprise, since universities long ago abandoned any pretence of providing moral education for their students. It is depressing, nevertheless, to reflect that in these bastions of higher learning many people have yet to learn what is in their own enlightened self-interest, meaning for the public good of all.

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This article is adapted from a paper given at the joint meeting of the Society for Scholarly Publishing, the Association of American University Presses, and the North American Serials Interest Group in Chicago, 20 June 1992.

1 / Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information* (Washington, DC: Government Printing Office, 1986), 14

2 / A bill introduced on 27 June 1991 by Senator Pell to give the Library authority to establish such a service was never acted upon, after opposition was voiced by various publishers' associations, and the Library has been trying since then to work out an acceptable compromise.

3 / A report in *Publishers Weekly*, 22 June 1992, p. 13, shows that imports, though up by 11.7 per cent in the first quarter compared with the same period last year, 'still comprised little more than half the value of the exports.'

4 / It appears that this is becoming a more prevalent attitude, even among the stronger critics of copyright. See 'Critics of copyright law seek new ways to prevent unauthorized use of computerized information,' *Chronicle of Higher Education*, 6 May 1992, pp. A23-A24.

5 / Ann Okerson, 'Publishing through the network: the 1990s debutante,' *Scholarly Publishing* 23, no. 2 (1992), 170-7

6 / 17 U.S.C. 101 (1976)

7 / This is, in fact, a proposal that has recently been made by two librarians from The Johns Hopkins University, who correctly point out that universities have all along taken just this approach in gaining control over intellectual products of their faculty members that can be patented. See Scott Bennett and Nina

Matheson, 'Scholarly articles: valuable commodities for universities,' *Chronicle of Higher Education*, 27 May 1992, pp. B1-B3. As the title of their article suggests, however, they limit their recommendation for defining faculty writing as 'work made for hire' to journal articles. They reveal their lack of familiarity with university press publishing by declaring that scholars 'rarely' assign copyright in their books to publishers 'because they see more clearly how they can benefit financially from their books.' In fact, contracts with university presses for publication of books typically transfer 'all rights' from author to publisher, and for many of these books there is no or only a very small royalty paid.

8 / Bennett and Matheson, *ibid.*, anticipate faculty opposition to their proposal, too: 'Since faculty members tend to resist administrative interference, they probably will resist the idea that journal articles are work done for hire - until they are convinced that such a system can lower the overall cost of communication and thereby benefit scholarship.' They therefore call for a campaign to educate faculty members and administrators 'about the existing system of scholarly communication and the value of copyrights' that 'can begin through the committees and study groups' of various organizations in higher education, including the Association of American University Presses.

9 / In the ruling against Kinko's, Judge Motley quoted Kinko's finan-

cial statements as showing that 'the company made a substantial profit in 1988 and 1989, respectively: \$27 million and \$35 million gross profit (before operating expenses) and \$200,000 and \$3 million net profit.' See *Basic Books, Inc. v. Kinko's Graphics Corp.*, 758 F.Supp. at 1531, n. 6 (S.D.N.Y. 1991).

10 / Among the systems already operating, besides the CCC's Academic Permissions Service, are the AAP's PUBNET Permissions, CARL's UnCover 2, and NACS's Copyright Permissions Service. National reproduction rights organizations exist in Canada, South Africa, and several countries of Europe and the Pacific.

11 / 'Frankfurt highlights,' *Rights* 5, no. 4 (1991-2), 7

12 / Joseph S. Alen, 'Collective licensing in an electronic environment,' paper delivered at the 24th Congress of the International Publishers Association, New Delhi, India, 27 January-1 February 1992, p. 16. See also his report, co-authored with John R. Garrett (then director of marketing for the CCC and now director of information resources at the Corporation for National Research Initiatives, which sponsored the report), *Toward a Copyright Management System for Digital Libraries* (Salem, Mass.: Copyright Clearance Center, 1991).

13 / 'Copyright Law Revision,' Hearings before the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, 93rd Cong., 1st Sess., pursuant to S.Res.56 on

s.1361, 31 July and 1 Aug., 1973, pp. 138-9

14 / The universities comprising the 'Big Ten' are Illinois, Iowa, Indiana, Michigan, Michigan State, Minnesota, Northwestern, Ohio State, Penn State, Purdue, and Wisconsin. The Big Ten is essentially an athletic conference, but they are joined by the University of Chicago in a group called the Committee on Institutional Cooperation, founded in 1958, an academic consortium whose programs 'encompass all aspects of university activity except intercollegiate athletics' (*CIC Annual Report*, 1990-1, p. 1).

15 / For more on 'endangered species' in the context of the changing role of university presses, see my article, 'Scholarly monographs may be the ultimate victims of the upheavals in trade publishing,' in the *Chronicle of Higher Education*, 10 October 1990, pp. B2-B3.

16 / For a good case for the survival of book publishing as serving 'knowledge' as distinct from 'information,' see Richard Abel, 'Books that are not being written: a failure in scholarly enterprise,' *Logos* 2, no. 3 (1992), 164-7.

17 / For a helpful elucidation of the differences between these two roles for librarians in the electronic library setting, which the author calls 'mediation' and 'delivery' respectively, see Ross Atkinson, 'The acquisitions librarian as change agent in the transition to the electronic library,' *Library Resources and Technical Services* 36, no. 1 (1992), pp. 7-20.