The concept of “fair use” has been one of the most contentious aspects of licensing electronic databases and e-journals. This is largely a result of licensing agreement conditions operating under the authority of contract law instead of copyright law. Traditional library resources in the form of books and journals are governed by copyright law, which, under the aegis of fair use, permits excerpting and quotation, lending, distribution, and use for educational purposes. Additionally, these materials are bought outright by libraries. Copyright law tries to strike a balance between protecting the rights of creators and diffusing knowledge. Licenses should account for the user rights protected by copyright law, and most do, but producers of electronic resources are not relying exclusively on copyright to protect their investments. Agreements can express the principles of copyright law within the confines of contract law. For example, the right to lend to the public, under copyright law, may be reinterpreted by contract law as use by “authorized users” only, thereby narrowing and restricting the rights normally imposed under copyright law. Ann Okerson of Yale University Libraries illustrates one of the ironies of copyright law:

In a modern society supposedly based on private property, copyright both exalts and undermines the integrity of property in telling ways. It grants to the person who has written a text (created a picture, film, or dramatic work) an extraordinary power over that creation, though it may go to the ends of the earth, a power that lasts at least five decades beyond the author’s death. Elvis Presley has already made more money dead than in all his career alive! (Okerson, 1996 p. 58).

Much of the defensive posturing exhibited by database and journal publishers and vendors centers around the belief that large numbers of users have the potential to access resources simultaneously, but I think this perception has been exaggerated. What publishers don’t consider when libraries sign site licenses, often at considerably more expense than multiple print subscriptions of the same journals, is that electronic access is theoretically more restrictive than access to the print versions. Because site licenses eliminate the need to specify exact numbers of simultaneous users (except in concurrent user pricing models), access restrictions imposed by vendors or by the libraries themselves provide authentication methods that adequately control use.

While no standard model for licensing electronic products currently exists, there have been efforts to develop working models for e-journals, and a few of the more reasonable expectations that should emerge from the considerable time and effort libraries and consortia spend developing licensing agreements would include several of the following options.

♦ One-time purchase of content, regardless of format

While librarians have grown tired of the “access vs. ownership” debate, the reality is that the purchase and long-term storage of electronic content has implications that need careful thought and preparation, which extends far beyond what many libraries are capable of at this time. Suffice it to say that purchasing the complete run of a high impact journal in paper is relatively uncomplicated to manage and find a home for on a shelf somewhere, when compared to the considerable planning involved in setting up and maintaining an electronic archive of the same material, but the option to buy outright should be available.

♦ Options for title by title purchases as well as bundled purchases

The reality is, we can do this now. Our institution’s preferred mode for acquiring electronic access is direct from the publisher, although admittedly the number of titles is quickly becoming unmanageable. Journal bundling involves collecting all titles produced by one publisher who sells it as an “all or nothing” product. This is a particularly favorite way for the large science, technology and medicine publishers to sell their information. Libraries that purchase information in these packages (most do now) should carefully consider studying the impact factors of included journals. Libraries often cancel print journals in lieu of pure electronic, only to find out that access has been cut (meaning no access to backfiles) when contracts are terminated.
• Print purchases should not be a factor and should not be required to acquire electronic versions

The reality is that publishers don’t want their print subscription base to erode, which is a main motivation for the content embargos (anywhere from 90 to 720 days in some aggregated databases) that frustrate library staff and users alike. The impetus for libraries to sustain a print subscription would be lost if complete full text availability online coincided with the print publication. One specialist in copyright law characterizes (with considerable bias to print journals) the problem:

Even when magazines move today to the on-line world, they have little to fear of a serious erosion in their paper subscription sales. Many glossy magazines are available over services such as America Online. For example, magazines such as Time, Business Week and Scientific American can be browsed online, and some are even accompanied by pictures. The slowness of browsing, the slowness of downloading the graphic images to the desktop computer, and the fact that many illustrations are not available, however, means that currently there is little competition between the computerized and the print versions of such periodicals (Trotter, 1995, p.2).

Granted, computer architecture and line connection speeds have vastly improved since that was written, but I believe there is a subtext here as well which implies a certain comfort and security in the printed copy. My experience has been and continues to be that people print what they are viewing on-line, particularly if it is an article of considerable length.

• The determining factor for authorized users should be affiliation, and not location

The reality is that if a user is being authenticated properly, physical location doesn’t make a difference. The potential for use and abuse is the same, whether access is obtained from physical library property, or from a hotel in another part of the world.

• Contract should be exempt from any indemnification clause

The reality is that libraries cannot, under any circumstances, be held liable for the actions of users above or beyond the general proviso of good faith effort.

In theory, the license should provide for more cost-effective access to scholarly materials in order to support academic research, graduate research and teaching, and undergraduate learning. There is little doubt to the validity of the promise for electronic information to reduce publication costs over time, facilitate distribution of scholarly information, and improve scholarly communication, but a balance needs to be retained between author’s rights and the larger public interest. Do publishers obsess about who may have access to a library collection that provides electronic access to their products? Most libraries outside of the corporate environment include walk-ins as a normal part of their licensing terms, which could easily allow access to corporate users who otherwise pay significantly above and beyond the costs that academic libraries incur for the same information products.

The current state of licensing remains in a transitional phase that requires considerable time and investment on the part of both librarians and publishers. Access models are also in a state of flux. In a recent case involving the New England Journal of Medicine, access methods for institutional users were changed from a 2-user per print subscription to a 5-user per print subscription model. At first, this change appears to benefit both libraries and users by increasing the user limit by 3. The catch here is NEJM’s reckless decision to restrict those 5 users to specific machines, rather than controlling concurrent usage from their side via IP recognition. In direct response to their new access model, I asked NEJM directly if it was possible to have them monitor the concurrent usage the same way many other electronic resource vendors and publishers do, rather than limit to specific workstations (something, by the way, that is impossible at our institution because of we do not assign specific IP addresses to individual machines). My argument was less about 5 users per print subscription, which in our system would mean 15 potential simultaneous users, and more about convenience of access. To limit access to specific machines at individual libraries would defeat the very purpose of requesting on-line access, which is accessibility at any distance. The response was less than helpful: NEJM feels that concurrent usage models potentially enable a lot more access than institutions are willing to pay for. They explained that some publishers have tried it and found that 2 concurrent users actually accommodates a couple of thousand users’ needs. Their belief is that 2=2,000=200,000. They went on to explain that they did consider implementing this access method, but they decided it probably wouldn’t work very well. The math doesn’t play out. If concurrent usage is monitored by NEJM, there is no further access being enabled, and 2 users=2 users. The reality is that print subscriptions techni-
cally have an infinite potential user base even given the limited location where they reside (most periodicals do not circulate outside the library). Electronic resources can be configured to restrict access in enough ways to prevent potential abuse, and publishers need to take a hard look at the impact their decisions have on institutional subscribers. Has NEJM considered the consequences of what physicians will do who depend on bedside access to help with patient diagnosis and treatment?

Collection Development

Many facets of collection development assume new roles in the electronic environment. Planning and collection functions require modification as electronic products enter the equation: the folks who identify, evaluate, select and de-select, formulate policy, monitor budgets, and evaluate collections have all seen simpler times, and are now living in interesting times. Those librarians who “live on the edge,” whatever that might be in library parlance, welcome exponentially larger volumes of information choices and we look forward to the challenge of honing new skills to work with emerging models for acquiring, maintaining, cataloging, using, and preserving this information. Those who long for simpler times lament the fact that we are less able to control the quality, and shape the content, of our collections. The mad rush to incorporate all things electronic into our collections is reaching epidemic proportions while the reliability of the “quality vs. demand” selection philosophy seems to have given way to the unpredictability of instant methods of access, which often results in a tradeoff of quality for quantity. Indeed, one of the primary tenets of the collection development librarian is to provide quality products that support the needs of their clients, making client-driven decisions whenever possible. Above all other selection criteria, (relevance, scope, faculty requests) cost is the overriding factor in deciding whether to initiate a purchase, particularly with regard to journals. Electronic resources will compete for dwindling funds along with traditional monograph and serials title lists, but on-line journals exhibit no more content value simply because of the format in which they are published. Likewise, as new subscription models and increasingly more complex licensing terms emerge, librarians will find themselves operating in an environment where collection development functions are impaired by institutional and budgetary restrictions. They must now meet the challenges of emerging technologies within these restrictions, while at the same time remaining cautious not to alienate the old guard and their devotion to the traditional resources. Relationships with vendors are becoming more involved so librarians can better understand new trends in subscriptions, publishing, and technology.

The proliferation of electronic journals in the sciences is staggering. The reasons are fairly obvious: the immediacy with which scientific literature is disseminated makes electronic delivery the preferred format. Searching abilities are now possible that were impossible in print-only formats. Authors benefit from the reduction in publication time which, in turn, may introduce their work to wider audiences. Scientific publishing is also a money-making operation: the American Association for the Advancement of Science finances most of its activities with income from its publication, *Science* magazine (Karow, 2001, p. 2). The number of on-line publications in the humanities and social sciences, however, falls considerably short in comparison to volume of periodicals published in the sciences and medicine. A number of journals in the humanities and social sciences (for subjects requiring sustained study or repeated reading, both for depth and complexity of the subject matter) have publishing irregularities that would make the cost of putting them on-line prohibitive. The impression that electronic publishing is substantially cheaper than its print counterpart is decidedly a myth that continues to be perpetuated, but is regularly disputed:

Certain parts of the production process can be expedited with the effective use of computers and networks, and significant cost savings can be realized in those areas. However, there is a substantial design cost in setting up an electronic production stream, and while this cost could be recouped if all things were otherwise equal, it is also the case that additional processes must be brought into play to handle electronic material that is more complex, and that tends to require more costly intervention when problems arise.

(Biemesderfer, 1996).

In a 1999 report for the Council on Library and Information Resources, Abby Smith states, “What we have found is that digitization often raises expectations of benefits, cost reductions, and efficiencies that can be illusory, and, if not viewed realistically, have the potential to put at risk the collections and services libraries have provided for decades.” (Smith, 1999, p.vi) The reality is that the movement has been, for some time, to do more for less money, and libraries need to maintain collections, manage new technologies, and recruit new staff with one eye toward tradition, and one eye toward these new directions.
As technology progressed in direct concert with the inexorable information explosion of the 1980's, many in collection development roles, especially those charged with balancing inadequate fiscal resources against uncontrollable costs, embraced the vision of access versus ownership, certain that the proper mix of technology and management voodoo would save us from a most bleak future. (Johnston and Witte, p.3-4)

Archiving

The future for libraries seems to lie in a policy of access rather than ownership. Curt Holleman, director of Collection Management and Development at Southern Methodist University in Dallas distinguishes between forms of access, in that

ownership is the quickest form of access; it is often faster to get a book on interlibrary loan than hope to find a book absent from its place on the shelf. And many patrons find it quicker and more convenient to order a journal article through a commercial vendor than to go to the library and find it. By the same token, access without ownership is much more expensive than simple ownership. (Holleman, p.50-51).

Storage and preservation in an appropriate format is undoubtedly a consideration for today's librarians, but at what cost? Will the technology we rely on today be supported tomorrow? Compact discs may last upwards of 100, 200, 500 years or more, but will we have the technology to read them? The expense of sustaining a balance between technology and medium can be prohibitive, and the chances for data corruption or loss when an upgrade is implemented borders on uncalculated risk.

The most obvious problem for preserving electronic information is the obsolescence of physical storage formats. The officeworld has gone through transitions of digital storage devices from 8-inch floppy disks, to 5.25-inch floppies, to 3-inch diskettes, to CD-ROMs, to DVDs. Digital artists, requiring larger file sizes, have also used a variety of optical storage disks, DAT, Syquest, Zip, CDRW, etc. But these storage devices become obsolete very quickly, and today it's very difficult to find a drive for one of these storage devices that will work with a contemporary computer. For digital works, technologists offer the "solution" that we need merely copy a file onto a new physical storage medium as the old medium becomes obsolete. (Besser, 2001)

Successful projects in digital archiving have been undertaken by nonprofit organizations, and the risks that publishers and vendors would bring to the archive arena could prove counterproductive to the goals of such a project. For example, should we expect them to maintain their archives, even when it compromises their motive for profit? The creation and maintenance of journal archives should follow a system of shared responsibility, where decisions about its fate are made through democratic vote and concern for the materials at hand. Although most libraries will not be capable of replicating and storing their journals in digital format, they will be able to turn to organizations like JSTOR. JSTOR began as a project to address the shortage problems that libraries face, both physically and financially. It has been hugely successful because it has earned the trust and respect of librarians and publishers alike, two groups who often disagree. While JSTOR adheres to the system of shared responsibility among many organizations, some have pushed for a national repository for digital information, where materials from publishers, academies, and the government would be evaluated by legislative or statutory requirements and enforced by a consistent archiving policy (Haynes and Streatfield, 1998, p. 2).

Print journals will not be replaced exclusively by electronic journals any time soon.

The large publishers argue that ceasing their print operations will save only a small proportion of their total budget, and that in the intermediate period when publication is in dual form, their costs are actually raised by the need to provide both forms. The radicals who argue for a complete reform of the system use zero-based budgeting to demonstrate that costs could be drastically lowered, if new electronic-only journals were started from scratch. (Rowland, 1997, p. 4).

Journals available only in electronic format will hopefully continue to be viewed with healthy skepticism, and should not be considered reliable for permanent deposit until the robustness of the technical infrastructure is such that it can support the requirements for long term storage and a consistent level of content standardization has reached critical mass.
In the wake of the recent collapse of NetLibrary, the first viable e-book model for libraries, a scenario emerged that supports the argument for licensors to at least provide archival copies of their products to licensees. More importantly, it illustrates the necessity for product developers to precisely define and effectively provide archived materials whose translation mechanisms are inseparable from their data structures. The University of Texas at Austin and a number of other libraries that made substantial investments in NetLibrary came up empty-handed when they recently went belly up. The last-minute buyout by OCLC may allow contractual obligations to be honored, but it is still questionable as to whether NetLibrary has the right to provide archived copies of its books (Fialkoff, p.97). The escrow agreement paragraph states that customers may not be entitled to the hardware or software components that are used to represent the data, leaving the subscribing institutions with content and no mechanism to articulate the content. It is just these types of clauses that should signal the writing on the wall: serving digital information is still in its infancy, and in this case, the provider has spelled out the fact that they may cease to maintain their data in a readable format, which should send up the warning flag to the licensee that it takes more than just possession of raw data to effectively use the archived material. My own institution chose not to buy the archived information because the particular collection we purchased focused on computer reference books and similar titles that had high turnover rates in the types of information they provided. The NetLibrary example clearly illustrates the need for institutions to more closely examine the products and services they are buying in terms of their long-range integrity.

As we face the new challenges of preserving and managing digital information in the library, we hopefully do so with prudence, enthusiasm, and a smattering of skepticism thrown in for good measure. Which comes about first, though, practice or theory? Are we to make assessments in relative isolation without understanding the attitudes and behaviors that influence the acceptance or rejection of the digital environment, and then center all of our patterns of operation based on these narrow definitions? Or should our rationale for developing policies and methods for acquiring and maintaining materials in the digital environment reflect the long-standing traditional practices of collection development? Planning for the increasing demand and usage of electronic content will hopefully encompass both viewpoints, and the essential prevailing concept as the basis for selection and acquisition will optimistically remain selection based on disciplinary need and content, and not format alone.