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Ethical Issues of Information Technology

Robert G. Wengert

Issue Editor
Library Trends, a quarterly thematic journal, focuses on current trends in all areas of library practice. Each issue addresses a single theme in depth, exploring topics of interest primarily to practicing librarians and information scientists and secondarily to educators and students.

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Ethical Issues of Information Technology

Robert G. Wengert

Issue Editor
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Ethical Issues of Information Technology

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Introduction

ROBERT G. WENGERT

In one of his fascinating books on effective ways to visually present information, Edward R. Tufte (1990) argues that designs that are densely packed with information do not always, as some claim, overwhelm the viewer or reader. This is because, as humans:

We thrive in information-thick worlds because of our marvelous and everyday capacities to select, edit, single out, structure, highlight, group, pair, merge, harmonize, synthesize, focus, organize, condense, reduce, boil down, choose, categorize, catalog, classify, refine, abstract, scan, look into, idealize, isolate, discriminate, distinguish, screen, sort, pick over, group, pigeonhole, integrate, blend, average, filter, lump, skip, smooth, chunk, inspect, approximate, cluster, aggregate, outline, summarize, itemize, review, dip into, flip through, browse, glance into, leaf through, skim, list, glean, synopsize, winnow wheat from chaff, and separate the sheep from the goats. (p. 50)

The list sounds like a day in the life of a librarian. Tufte's exhausting litany reminds us of the rich variety of activities that the public expects library and information professionals to help it with. These are centrally important activities in all human lives, and the fact that library and information professionals are expected to be experts over the entire range of these leads to many of the ethical concerns that the profession is presently facing. This issue of Library Trends addresses a few of these concerns.

The first two articles of the issue discuss some of the very real problems—one more general, one more specific—that library and information professionals must face. Randy Diamond and Martha Dragich take a realistic look at the phenomenon of malpractice in librarianship. Their role as law librarians shows in their careful research of legal liability for
librarians. They discuss the theory of legal liability for various professions and point out that the history of case law reveals that there have been no test cases so far charging any librarian with malpractice. But they also indicate that there seem also to be no examples of cases being brought against lawyers for faulty research in developing a case. They suggest that these lax standards may no longer hold as clients become more sophisticated information seekers. They compare reports on “core values” in the library and in the legal profession. This leads to an account of what good librarianship will be in the information age, and they present an example from the corporate world of a traditional library being transformed into a modern information resource.

Nicole Auer and Ellen Krupar face the issues raised by the fact that new technologies make it increasingly easy to copy material, which makes plagiarism very simple and attractive. They point out that the lack of consistency among style guides regarding how to cite online sources, and students’ ignorance of what plagiarism is, simply makes matters worse. They discuss the role that Web paper mills play in a modern student’s life and worry that institutions, such as universities, may themselves be open to the same charges of providing students, for a fee, with the items that they need—papers, classes—in order to get a degree, whether they learn from these items or not. They discuss various factors that cause faculty to choose not to pursue cases of cheating. They conclude with a number of practical examples of the ways in which librarians could help faculty and students to minimize the practice of plagiarism and cheating.

There often are more general concerns that are expressed concerning the effect that new technologies will have on libraries and their patrons. The next three articles address these concerns in different ways and at varying levels of generality.

Robert Hauptman questions the readiness with which libraries are prepared to spend their meager funds on new technological software and equipment. He worries about the fact that libraries are tending to depend more and more on CD-ROM or Internet databases to provide information to patrons. He cites some of the problems associated with this, in particular that the integrity of information on the Internet is always suspect. In the face of the numerous ways in which new technologies can be misused, he argues that mere ethical strictures are no longer adequate to address the problems and suggests that legal means will be required.

Nicholas C. Burbules considers the ways in which the unique structure of the Web affects its credibility as a reference system. The Web has massive volume, serves as a reference for itself, and is complicated. He introduces a series of paradoxes that result from these features—e.g., often, more sophisticated users are more likely to be duped by items found on the Web. He discusses ways that have been proposed to reduce such deception but argues that these responses themselves ultimately turn out
to be paradoxical and self-defeating. This leads him into a discussion of the various dimensions of the concept of credibility, which continues on to a discussion of the ethical dimensions of credibility. He worries that one great temptation provided by the Web will be that the wealth of varying information on any particular topic that can be found there may tempt us to seek data on the Web that will plausibly confirm our prior beliefs. He concludes that the Web will force us to accept a more communal approach to credibility, challenging the traditional view that the paradigmatic credible judgment is made by the lone searcher after truth.

Krystyna Górniak-Kocikowska considers the effects of new technologies by pursuing the analogous revolution that occurred with the introduction of the printing press. Libraries came less to be seen as treasure houses than as resources, and one could read a text free of the interpretive overlay of the teaching master. Effects were felt in the development of vernacular languages, in the topics allowed in universities, and in the very notion of research and education. Górniak-Kocikowska sees the computer revolution to be as potent as the printing press revolution. Just as printing presses made books available, such as Luther's translation of the Bible, which authorities at the time sought to suppress, so computers make it easy to avoid the literary "canon" promoted by academics. She examines the typical steps followed in dealing with any revolutionary change and applies these to phenomena that have already been observed with the computer revolution. She points out what a difficult abstract skill writing, and its concomitant skill reading, is and worries that these central human skills will become devalued as we attend more to newer peripheral technologies.

The problems that library and information professionals face raise interesting vexing ethical and philosophical issues. The next two contributions discuss some specific problems, but both also ask whether the public stance on ethical matters that the library profession typically takes is the appropriate one. Both of these articles suggest that stressing its teaching role over its role as a gatekeeper is the better way to think of a library and its professionals. Further, such a change in perspective would enrich the public ethical discussions within the profession.

Mark Alfino and Linda Pierce isolate the source of the profession's present commitment to neutrality in the "fiction problem." As libraries carried more fiction, they perforce had to become more neutral concerning what fiction to include and what to exclude; this attitude of neutrality affected collection development generally. Now with the "Internet problem," libraries need to investigate the nature of information and its moral value. They propose that seeing the librarian as a teacher aiding in a patron's inquiry reveals the moral importance of information in the life of the individual and of the community. They detail some practical consequences that their view would have for those in the library profession; all of these considerations stress the social value of information.
My own contribution seeks to use a particular definition of "information" to investigate how one might understand the rights that are often claimed to belong to any patron of the library, in particular, the right to be free of any censorship. This leads to a discussion of some of the philosophical problems of rights and "rights-talk" and suggests that rights-talk seems to predominate in public ethical statements within the library and information profession. It is argued that the daily practice of those in the profession reveal less an interest in rights and more an interest in seeking the best ways to help patrons achieve their goals. As in the preceding paper, the conclusion is that if the teaching role of the library and its professionals were stressed, ethical discussions about the profession would be richer and more realistic.

The final two contributions examine institutions with which the library and information professions interact and the responsibilities that arise because of those interactions. The first discusses how education contributes to the profession, the second addresses the ways in which the profession affects the world.

Toni Carbo and Stephen Almagno describe the history and development of the program in information ethics that they have developed in the School of Informational Sciences at the University of Pittsburgh. They describe the issues that led to considering such a program, the practical problems in its creation and development, and the consequences that the program has had in the courses developed, the students taught, and the Web site that has been developed. They relate the interest in the program expressed by organizations outside the university, and they conclude with a description of plans for the program's future, stressing the numerous ethical concerns that any future program will have to face.

Martha Smith focuses on the global effect that the Internet has on questions of information ethics. She highlights the issues of preserving humanity and conserving the natural world as central to global concerns. At issue is the balance of humanity, nature, and technology. Success, she argues, will require more than moral codes; it will require a recognition of mutual responsibility and caring concern for one another. She considers some exemplar cases and discusses five central themes—access, ownership, privacy, security, and community—that appear in the Universal Declaration of Human Rights. She notes that UNESCO also puts mutual responsibility and caring concern at the center of its projects. She provides a description of the recent Infoethics Congresses and mentions the rapid growth of another area of applied ethics, bioinformation ethics or bioinfoethics. She concludes by describing a number of topics that need study.

**REFERENCE**
Professionalism in Librarianship: Shifting the Focus from Malpractice to Good Practice

RANDY DIAMOND AND MARTHA DRAGICH

ABSTRACT
MUCH OF THE PREVIOUS DISCUSSION IN LIBRARY LITERATURE about professional standards concerns librarian malpractice risks. After explaining why these risks have not materialized, this article examines the role of professional standards in fostering good practice in librarianship. Components of good practice include professional knowledge, core competencies, and professional values.

INTRODUCTION
Do librarians face significant liability risks in providing information services to their patrons? Yes, in theory, if measured against library literature devoted to information professionals’ potential liability—but hardly at all, if one considers that, in today’s litigious society, there have been no reported court decisions in which a librarian was sued for a service-related occurrence. The purpose of this article is not to close the door on the liability question but to refocus that question toward a more productive inquiry into what constitutes good practice in librarianship. Malpractice liability for any professional sanctions a departure from the profession’s standard of acceptable practice. Thus, discussions about malpractice cannot proceed until at least these minimal standards of practice are shared widely among members of the profession.
We argue that legally acceptable boundaries of behavior should not solely define library practices. Rather than setting a liability-avoiding threshold, librarians should articulate principles and practices ensuring that members of the profession function at the highest level. Librarians’ struggle for continuing professional viability in the information marketplace has brought librarianship to a critical phase in which efforts to redefine and reinvent the profession have taken hold in various professional associations and in libraries of all kinds. One indication of this trend is the effort of several professional organizations to develop “core competencies.” Core competencies may be a catalyst for developing standards of care for librarians, but standards of care are only part of what constitutes good practice. The lesson from professional malpractice cases is that professional standards typically set minimum legal requirements and do not inspire members to achieve higher performance levels than what is legally required. In shifting the inquiry from malpractice to good practice, we do not dismiss the importance of professional standards in the legal sense, but the good practice concept we seek requires a more broad-based inquiry into the professional groundings of librarianship.

The first part of this article explains why librarian liability has not materialized. Although courts have not ruled on whether librarians have a duty of care in serving their users, it is important to understand how courts decide whether a particular occupation is a “profession” for malpractice purposes. The second part of this article explores the potential and limitations of professional standards and non-enforceable ethical codes for ensuring good information practice. The third part of this article examines the professional groundings of librarianship. The core criteria distinguishing professional work from the work of other occupations—professional knowledge, skills, and shared values—offer a blueprint for good practice. The article concludes with a discussion of the librarian’s critical educational role in the digital age and an example of a successful reinvention of a library illustrating principles and applications of good practice in librarianship today.

**Librarian Liability Theories**

In 1975, Alan Angoff posed the classic library malpractice hypothetical. A library was sued for providing a patron with a book containing inaccurate information about how to build a patio. The patio collapsed, and the patron sued the library for personal injuries and property damage. Holding the library liable for faulty information in a book would put librarians in the impossible position of having to verify every fact in a book before recommending it to a patron (Dragich, 1989, p. 265). In an actual faulty information case involving a defamation claim against a video rental store, the court stated that “one who merely plays a secondary role in disseminating information published by another, as in the case of li-
braries . . . , could not be held liable for defamation unless it knew or had reason to believe the information was libelous” (p. 270). By analogy, where the faulty information originates outside the library, as it does in Angoff’s hypothetical example, the library is not liable unless it has reason to know or suspect that the information is faulty. Any claim the patron may have in Angoff’s hypothetical case is against the author or the publisher, not the library. The attenuated relationship between a librarian and the source of the information negates a key element of malpractice liability—i.e., duty. It is the duty of authors and publishers to verify the accuracy of information they produce. Librarians are intermediaries whose connections to the faulty information are too remote to create a legal duty to patrons under these circumstances.

Despite the absence of real-life lawsuits against librarians, information liability remains a popular topic in library literature. Potential claims against librarians for ordinary negligence or for professional malpractice (also called professional negligence) are the primary legal theories raised in the literature. An examination of how courts have applied these theories to other professional groups may shed some light on why the dreaded onslaught of litigation against librarians has not materialized.

Plaintiffs in ordinary negligence actions must demonstrate that the defendant owed the plaintiff a legal duty and that the defendant’s conduct (or failure to act) breached the duty (Fleischer, 1999, p. 172). The duty derives from a relationship between the parties that imposes a legal obligation on one person for the benefit of another (Healey, 1995, p. 524). The breach must be the cause of actual harm suffered by the plaintiff. Causation and duty are tied together by a single question: was the defendant under a duty to protect the plaintiff against the event that did in fact occur (Keeton, Dobbs, Keeton, & Owen, 1984, p. 274)? Unlike professional malpractice cases where courts typically defer to industry custom and practice as defining the standard of care, courts measure ordinary negligence defendants against a hypothetical reasonable person in determining whether the defendant has met the appropriate standard of care.

Healey (1995) frames the elements of a successful ordinary negligence claim against a librarian: “[S]uch a claim would have to show that the librarian had a specific duty of care toward the patron, that the librarian failed to conform his or her conduct to the duty, that the patron suffered harm, and that the librarian’s negligence was the reasonable, proximate cause of the harm” (p. 532). In a general public library setting, establishing a duty of care would be difficult considering that “librarians are information intermediaries who neither guarantee the information they supply nor hold themselves out as subject experts” (p. 532). Librarians who claim subject expertise must use their expertise in ways that are appropriate to their roles as librarians. For example, in law libraries, reference librarians (many of whom hold law degrees) must not offer legal advice or
interpretations of legal materials. Medical librarians likewise must not diagnose illnesses.

To prevail in a professional malpractice action, the plaintiff must prove the professional failed to possess and apply the knowledge, skill, and ability that a reasonably careful professional in the field would exercise under the circumstances, causing harm to the plaintiff (Polelle, 1999, p. 206). Malpractice differs from ordinary negligence by applying a heightened standard of care. While ordinary negligence actions hold actors to the standard of a "reasonable man," malpractice holds professionals to the standard of care based on the use of skill and knowledge ordinarily possessed by members of the same profession (Fleischer, 1999, p. 172). This heightened standard protects consumers from substandard care of unqualified practitioners by holding all practitioners to the standard of a qualified practitioner.

The professional's burden of being held to a heightened standard of care is tempered in many respects. Unlike ordinary negligence actions in which courts determine the applicable standard of care based on the individual facts, the applicable standard of care in a professional malpractice action is derived from industry custom. Thus, professionals enjoy the "privilege of setting the legal standard by which they will be judged," similar to a peer review system (Polelle, 1999, p. 206). Plaintiffs in professional malpractice actions must provide an expert witness—a member of the profession—to testify regarding the defendant's departure from the relevant standards of professional conduct. Finally, professional malpractice suits typically must be filed within a shorter period of time after the alleged malpractice than an ordinary negligence claim.

Given the tactical advantages afforded professionals, it is not surprising that many occupations seek "professional" status for malpractice purposes. Courts have not clearly defined who is a professional and who is not. Some courts strictly limit the definition of a professional to those occupations recognized as such by the common law (lawyers and physicians). Some courts go to the other extreme and include as professions all occupations licensed by the state. Other courts weigh various indications of professionalism (Polelle, 1999, p. 218). A New York Court of Appeals case provides a representative approach:

A profession is not [merely] a business. It is distinguished by [1] the requirements of extensive formal training and learning, [2] admission to practice by qualifying licensure, [3] code of ethics imposing standards qualitatively and extensively beyond those that prevail or are tolerated in the marketplace, [4] a system for discipline of its members for a violation of the code of ethics, [5] duties to subordinate financial reward to social responsibility, and, notably, an obligation on its members, even in non-professional matters, to conduct themselves as members of a learned, disciplined and honorable occupation. (Glaser & Lewis, 1995, p. 575)
Although not tested in the courts, librarianship seems to satisfy the first, third, and fifth criteria, but it would almost certainly fall short in failing to satisfy the second and fourth factors of the New York test. Determinations of other occupations' status as "professions" for malpractice purposes have been inconsistent. Groups for which courts have refused to recognize an action for malpractice include educators and clergy. Other groups besides attorneys and physicians which courts recognize as being subject to malpractice claims, include accountants, dentists, psychologists, architects, and engineers.

Healey's (1995) comparison of teachers and librarians in this context is instructive (pp. 529-30). He posits that malpractice claims would more likely succeed against teachers than against librarians. The licensing of teachers supplies fairly concrete standards against which negligent activity can be measured. Malpractice claims have actually been brought against teachers in court, though so far without success. Although a flood of litigation against teachers was predicted during the 1970s (as it was also for librarians in the 1980s), the courts have refused to recognize an action for educational malpractice. In most cases, the teacher-student relationship is closer and more sustained than librarian-patron encounters, which are mostly transitory. The teacher-student relationship also carries with it greater expectations of a measurable and identifiable outcome than does the librarian-patron relationship. Healey (1995) writes that "to the extent that the comparison is accurate, the uniform refusal of courts across America to refuse to recognize a tort of educational malpractice makes the idea of librarian malpractice as a viable tort claim that much more unlikely" (p. 530).

Polelle (1999) argues that the elusiveness of a unified definition of "professional" "creates the risk of capriciousness as more groups seek the protection afforded by professional status" (p. 205). Courts typically accord psychologists and insurance brokers professional status without explicit reasons for doing so. Some courts have conferred professional status on architects because they hold themselves out to the public as experts in their field, possessing specialized knowledge and intensive preparation for the rendering of a public service. But, as Polelle notes, "the same could be said of airline pilots, precision machinists, electricians, carpenters, blacksmiths or plumbers, all of whom are assumed . . . to be members of a 'skilled trade' and not 'professionals'" (p. 217). Moreover, "if one uses the criterion of specialized knowledge alone, it is certainly counterintuitive to conclude, as one court did, that an airplane pilot is not a professional. Piloting a plane arguably requires at least the same degree of specialized knowledge and training as performing surgery" (p. 228). Social workers are treated as professionals by some courts but not by others (p. 214).

With court determinations resting on so many different factors, emerging professions are at a loss to predict what they need to do to achieve
professional status in the eyes of the law. In order to improve consistency and fairness in this process, Polelle urges that “[a]n occupation’s self-imposed obligation of a credible and enforced fiduciary code of ethics should be the major, if not sole, criterion of what constitutes a profession for malpractice purposes” (p. 228). He argues that an occupation’s willingness to embrace and require its members to conform to superior ethical obligations affords the public greater protection than educational requirements or specialized knowledge alone in most situations (p. 228). The criterion of an enforceable ethical code obligation—something librarian-ship lacks—provides a meaningful distinction between a profession and an occupation for purposes of regulating malpractice litigation.

In the absence of any actual library negligence cases, it is worth examining how pharmacists have fared under ordinary negligence rules. Long thought of as mere technicians responsible only for accuracy and efficiency in dispensing drugs, the modern pharmacist’s practice is no longer confined to pill counting (Fleischer, 1999, p. 169). In the 1990s, Congress “expand[ed] pharmacy practice to include an obligation to screen prescriptions, keep patient history records, and offer to discuss medications with Medicaid patients” (pp. 169-70). The leading pharmacy chains advertise their pharmacists’ role in screening multiple prescriptions for contraindication and preventing potential side effects (p. 170). The pharmacy industry’s willingness to take on greater responsibilities for patient care is evidenced in industry standards distinguishing among the various tasks of the practice of pharmacy and requiring specific conduct for each (p. 171). These standards require pharmacists to become more directly involved in patient care, contrary to past practice in which the pharmacist’s exercising of professional judgment was discouraged as intruding on the physician-patient relationship. Civil litigation involving pharmacists has risen dramatically over the past twenty years (Fleischer, 1999, p. 165). Most courts have been slow to embrace the expanding role of pharmacists and continue to apply an ordinary standard of care without deferring to industry practice. In other words, courts so far seem to deny pharmacists the benefits of professional status for malpractice purposes. Some courts continue to set the standard of care under an outdated view that pharmacists are accountable for clerical accuracy only. For example, in Illinois, negligence law imposes no duty upon the pharmacist to warn the customer, or to notify the physician, that a drug is being prescribed in dangerous amounts, that the customer is over-medicated, or that the various drugs as prescribed could cause adverse reactions (p. 176). The physician’s traditional burden of sole accountability for health care decisions may explain why some courts still refuse to hold pharmacists to a greater duty of care than in the past. Courts that are more willing to expand pharmacists’ liability take the approach that pharmacists must apply their skill and knowledge to prevent unnecessary injury to customers. “Application
of expanded liability arises from courts’ recognition that intervention by pharmacists, particularly in situations in which a prescription contains an obvious error, may prevent injuries, and that this measure of protection outweighs other policy concerns, such as preserving the patient-physician relationship” (p. 180).

The willingness of some courts to bend a little from the traditional view of pharmacist liability to recognize a heightened responsibility when there is an “obvious error” is comparable to the notion that disseminators, rather than originators, of information are liable for providing faulty information only if they have reason to know that the information is bad. Granted, the basis for comparing librarians and pharmacists in the litigation context is limited in some respects. First, there are no reported librarian malpractice or negligence cases. Second, the nature of pharmacists’ and librarians’ relationships with potential plaintiffs is different. Librarians assist their patrons by connecting them with information without assuming responsibility for outcomes, whereas pharmacists, especially in their newer roles, assume some responsibility for the safety and welfare of their customers as intermediaries between patient and physician. But pharmacists, like librarians, occupy an intermediate position in the delivery chain. For that reason, pharmacists may offer the best model for assessing librarians’ potential malpractice liability.

Like pharmacy customers, library users probably have a better understanding and acceptance of librarians’ intermediary role in providing access to information than librarians give them credit for. If library users believed that librarians were accountable for providing inaccurate information, almost surely there would have been some test cases by now. Nevertheless, as librarianship continues to evolve in a rapidly changing and increasingly complex information environment, it needs to develop appropriate professional standards to guide its practitioners in their daily conduct, and to solidify a leadership role among competing information professionals.

SETTING THE BAR FOR PROFESSIONAL CONDUCT

Professions’ prerogatives in setting standards against which their practitioners’ conduct will be judged has been identified as a major benefit of obtaining professional status for malpractice purposes. One of the hallmarks of a profession is that it depends on a specialized body of knowledge. As the corpus of knowledge grows, members of a profession commit general principles to memory and conduct research when necessary to inform themselves about specialized or unusual cases. Thus, we next inquire: How ambitious are the standards for information-seeking activities in other professions? This analysis may shed some light on the potential, as well as the limitations, of professional standards for advancing good practice in librarianship. Consider the ethical standards by which lawyers’
research practices are judged. Ethical regulations for lawyers are contained in the Model Rules of Professional Conduct. State bar associations typically enforce the Model Rules. Model Rule 1.1, Competence, mandates that: "A lawyer shall provide competent representation to a client . . . . Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation. Legal knowledge includes both familiarity with well-settled principles of law and the ability to discover those additional rules of law which, although not commonly known, may be readily found by standard research techniques" (MacLachlan, 2000, p. 613). Disciplinary Rule 6-101, Failing to Act Competently, is the enforcement mechanism for Model Rule 1.1. It states that a lawyer shall not handle a legal matter without preparation adequate in the circumstances. Adequate preparation includes the duty to conduct legal research to discover the rules of law that are not commonly known (MacLachlan, 2000, p. 613).

Interestingly, among the thousands of state ethics opinions, there does not appear to be a single ethics case directly applicable to a lawyer's legal research (MacLachlan, 2000, p. 616). The failure of lawyers' research practices to appear in state bar association disciplinary proceedings suggests that lawyers' information-seeking practices receive little scrutiny among peers. One has to look to legal research malpractice cases in the courts for guidance about lawyers' legal research standards. The seminal case in this area is a California Supreme Court decision, Smith v. Lewis, in which an attorney handling a divorce failed to assert the plaintiff's community property interests in her husband's military pension. The attorney had handled many similar cases in the past in which he had asserted such community property rights; he was sued for legal malpractice for not doing so in this case. The court measured the attorney's conduct against "such skill, prudence, and diligence as lawyers of ordinary skill and capacity commonly possess and exercise" (MacLachlan, 2000, p. 617). Interestingly, this is one of the few cases in which a court has illustrated this standard in the context of the nature of the research required. Affirming the lower court's judgment that the attorney had failed to perform adequate research, the California Supreme Court in Smith v. Lewis cited chapters and sections of what it called "major authoritative reference works, which attorneys routinely consult for a brief and reliable exposition of the law. These sources, while recognizably broad and shallow in the manner of their general subject treatments, present the same, initial, low threshold of adequacy in research as does the 'common and ordinary skill and capacity' standards of professional competency" (MacLachlan, 2000, p. 617).

Despite these seemingly low standards, lawyers' legal research skills are frequently criticized. Many articles about legal education have pointed to law school graduates' deficiencies in performing legal research. Stories of poor research habits within the profession are legion. Lawyers have
been somewhat insulated from public scrutiny in this aspect of their practice primarily because of the highly specialized nature of print and online legal materials and their relative inaccessibility to the public. Although courts have rebuked lawyers on occasion for failing to use some of the features of the online systems, there are only a couple of court decisions which directly address computer use with respect to the adequacy of a lawyer's research. One reason for the paucity of cases may be that the cost of online legal databases is beyond the reach of many practitioners, and thus these online services are not considered tools that lawyers of ordinary skill regularly use.

The increasing sophistication of both professionals and their clients as information seekers and consumers may cause a reevaluation of lax standards of research competence. MacLachlan (2000) suggests, for example, that the Internet is likely to raise the bar on the minimum standards of research competence for lawyers. Unlike proprietary online databases, the Internet is widely available to the public and provides access to a growing body of legal information previously available only to lawyers and expert navigators of legal knowledge. MacLachlan (2000) writes:

> The ready access and availability to legal and government information on the Internet though has absolutely changed how the American public receives its information, and the legal profession can no longer function from the premise of limited public access to that information... In the face of these changes, the traditional standard of ordinary care and skill in legal research cannot prevail against a future challenge by an intelligent layman with more information readily available from the Internet than [his] lawyer can find in his standard reference sources... Unless lawyers rise to the challenge and the opportunity of the Information Age, the profession will lose control over the standards by which legal services are evaluated and the Internet will have transformed the minimal standard of professional competence in legal research from that of the ordinary lawyer to the higher standard of the "intelligent layman." (pp. 646-47)

The point is not that the Internet is a comprehensive source of information for any field. It is far from that. But MacLachlan (2000) deftly illustrates just how lax lawyers' research standards have been if the layperson's newfound access to legal information on the Internet requires a significant segment of the legal profession to "reorient itself in response to a new communications environment" (p. 647).

The competence standard for lawyers in the Model Rules sets the bar at a minimum level of acceptable performance. Ethical principles in the corresponding ALA Code of Ethics, by contrast, aim for maximum rather than minimum service standards. "We provide the highest level of service to all library users through appropriate and usefully organized resources; equitable service policies; equitable access; and accurate, unbiased, and courteous responses to all requests" (American Library Association, 1995).
The ALA Code embodies aspirational virtues rather than commands. Though this type of ethics code sets the bar higher, it is non-enforceable on its members. Thus, its ability to direct professional conduct is inherently limited to self-governance and voluntary enforcement within the workplace.

The core competencies recently promulgated by several library organizations may represent a partial response to the non-enforceability problem of the Code of Ethics. These standards attempt to describe in somewhat greater detail the standards of practice for librarians. As such, they are an important first step toward defining good practice. But the core competencies suffer from the problems of both the Model Rules for lawyers and the ALA Code of Ethics: they set minimum standards, and they lack an enforcement mechanism.

Without an enforcement mechanism, a rule-based set of professional standards is not practical or even appropriate for librarians. The next section looks at the relationship among professional knowledge, skills and competencies, and shared values and their collective role in fostering good practices in librarianship.

**Professional Groundings of Librarianship**

The real battle for professional recognition for librarians is being waged in the information marketplace. Librarians have never been terribly successful at communicating to the public what they do or why they consider their duties professional in nature (Danner, 1998, p. 315). The permeation of computers throughout the workplace further clouds the perception of librarians' roles, often resulting in competition with other information professionals within and outside of the organization. The growth of networked information systems and the popularity of end-user searching threatens to diminish, or even eliminate, the librarians' traditional intermediary role in the information-seeking process (p. 316). Librarians must clearly articulate their roles and must define—for themselves and for those they hope to serve—reasonable standards of good practice.

In "Redefining a Profession," Richard Danner combs the literature of the professions for insights into the nature of the current relationship between librarians and technologists and predicts continuing convergence of both groups' responsibilities and practices. Danner explains why librarians are positioned to assume a leadership role among information professionals and to largely shape their own future rather than having it determined by market forces. Danner's examination of the professional groundings of librarianship in knowledge, skills or competencies, and values provides a blueprint for good practice in librarianship.

**Professional Knowledge**

Professional knowledge is the intellectual component of professional work and is essential for any group wishing to be recognized as a profes-
sion (Danner, 1998, p. 326). According to William Sullivan, professions are typically characterized by “specialized training in a field of codified knowledge usually acquired by formal education and apprenticeship” (quoted in Danner, 1998, p. 326). Danner quotes the work of Andrew Abbot in this context:

For Abbott, the characteristic of “abstraction” is what sets the professions apart from other occupational groups. As he points out, “control of an occupation lies in control of the abstractions that generate the practical techniques.” The techniques may be delegated to others, but “only a knowledge system governed by abstractions can redefine its problems and tasks, defend them from interlopers, and seize new problems . . . . Abstraction enables survival in the competitive system of professions. (p. 327)

The legal profession illustrates how a profession draws on its knowledge base to respond to new problems and to reinvent its practices to remain competitive, for example, the shift from sovereign industrial economies to an information-based global economy requires adapting traditional legal doctrines to new situations. In some instances, established contract and intellectual property rules will be sufficient to govern electronic commerce disputes but, in others, the law will have to develop new sets of rules. The knowledge base of the legal profession, embodied in the writings of judges, legal scholars, and practitioners, collectively forms a rich theoretical and practical reservoir of knowledge that has guided the legal system through many changes. The common law system, with its core fields of contracts, torts, civil procedure, and property, provides the theoretical base in law to create new fields of legal knowledge as needed. As market conditions change, lawyers whose specialties wane in demand have the knowledge base to draw on in order to develop new specialties.

Danner (1997) questions whether “librarianship ha[s] a critical base in theory [to meet] the challenges that widespread diffusion of information technology and access to information pose for users of information and for librarianship as a profession . . . .” (p. 327). He cites several writers who suggest that the profession lacks the theoretical underpinnings to direct library education into the next century or to marshal a coherent “vision of who we are and where we are going as a profession” (quoted in Danner, 1998, p. 328). In the absence of a richly developed traditional knowledge base, an alternative, and perhaps more practice-driven, approach is to “identif[y] specific elements of the knowledge that characterizes and distinguishes the librarian’s work” (p. 328).

The American Association of Law Libraries (AALL) Special Committee on the Renaissance of Law Librarianship “discuss[ed] professional knowledge within the context of the mission of law librarianship: ‘to serve the information needs of the legal profession and the legal information
needs of the public’” (Danner, 1998, p. 328). Eight essential elements to the knowledge base of the profession are listed:

Law librarians must (1) have a solid grounding in the liberal arts; (2) understand the legal system and legal profession; (3) be well informed about information and library science theory; (4) be knowledgeable about legal resources and legal research; (5) be well informed about commercial, governmental, and nonprofit information providers, including Internet sources; (6) be knowledgeable about information technologies; (7) be well versed in the culture and likely future of the organization in which they work; and (8) be well versed in management and administration. (p. 329)

Many of these characteristics are driven by the legal context, but most apply with minor alterations to any branch of librarianship. Lawyers are primarily engaged in problem solving. A liberal arts perspective helps law librarians recognize larger societal issues and trends affecting the law. Understanding the legal system and legal profession provides insight into the lawyer’s purpose. Knowledge of legal resources and legal research is essential for understanding how lawyers use legal information in their work. For the library to remain relevant and vibrant, management and administrative decisions must be made in the context of the larger organization’s culture and future goals. Librarians in other settings must be equally attuned to the needs of their user populations.

**Skills or Competencies**

Skills or competencies are the practical applications of professional knowledge (Danner, 1998, p. 326). They are, of course, essential for meeting the needs of employers and clients but are more ephemeral than knowledge (p. 332). A one day training course on PowerPoint may be sufficient for obtaining the skills necessary to create basic classroom presentations, but a year from now another course may be necessary to learn how to use a new presentation software package. A library administrator responsible for planning for educational technology does not necessarily have to possess expert skills in operating different versions of presentation software but needs sufficient professional knowledge to keep the library’s educational support functions apace as faculty needs for classroom technology applications evolve.

Basic core competencies may be used to assure a common base-line skill level across library departments. This can be especially helpful for assuring that all library staff members, regardless of their areas of specialization, are familiar with the core functions of an integrated library system. Green and Schweitzberger (1999) have taken this approach in “Designing Training for Core Competencies for Library Staff.” The objectives stated are “to provide a common knowledge base for all library staff, in order for library staff to understand the integrated and interrelated elements of the III [Innopac] system.” Competencies are listed under sev-
eral categories including Public Searching, Staff Mode Searching, Staff Mode Information, and Printing/Downloading. Within each category, several specific skills are identified (Green & Schweitzberger, 1999).

Library associations are also active proponents and creators of core competencies. Core competencies at the association level tend to define competencies more broadly than individual libraries do and to identify both professional and personal competencies. “Competencies for Special Librarians of the 21st Century” prepared by the Special Libraries Association (SLA) “defines competencies broadly as the ‘interplay of knowledge, understanding, skills, and attitudes required to do a job effectively’” (Danner, 1998, p. 333). Professional competencies “relate to the special librarian’s knowledge in the areas of information resources, information access, technology, management and research, and the ability to use these areas of knowledge as a basis for providing library and information services.” Personal competencies “represent a set of skills, attitudes and values that enable librarians to work efficiently; be good communicators; focus on continuing learning throughout their careers; demonstrate the value-added nature of their contributions; and survive in the new world of work” (Special Committee on Competencies for Special Librarians, 1996).

Draft AALL Core Competencies of Law Librarianship issued in May 2000 encompass library management, reference, research and patron services, information technology, collection care and management, and teaching. AALL recommends that individual librarians use the competencies to identify continuing education and professional growth opportunities. It also recommends that employers use the competencies to make hiring, evaluation, and promotion decisions and that the association use the competencies to ensure that its educational programming advances the skills or knowledge necessary for law librarians’ current and future work (American Association of Law Libraries, 2000).

Shared Values

Shared values encompass the “idea that professional work is done not only for profit, but for socially beneficial purposes” (Danner, 1998, p. 326). In 1999, the Congress for Professional Education recommended to the ALA that it:

clarify the core values (credo) of the profession. Although the Association has issued a number of documents that imply values for the profession (e.g., the code of ethics, the statement on intellectual freedom; the affirmation of libraries as an American value) there is no clear explication to which members can refer and through which decisions can be assessed; the resulting statement should be developed with partner groups or endorsed by them as the values of librarianship. (Congress for Professional Education, 1999)

Subsequently, an ALA Core Values Task Force was formed to draft a statement on core values for the profession. The current draft, “Librarianship
and Information Service: A Statement on Core Values, 5th Draft (28 April 2000)." was scheduled to be submitted for approval by the ALA Council at the 2000 Annual Conference. The Task Force, while recognizing the diverse skills and roles of individual librarians and other members of the information profession, attempts to promote a unitary profession through identification of the following core values: (1) connection of people to ideas; (2) assurance of free and open access to recorded knowledge, information, and creative works; (3) commitment to literacy and learning; (4) respect for the individuality and the diversity of all people; (5) freedom for all people to form, to hold, and to express their own beliefs; (6) preservation of the human record; (7) excellence in professional service to our communities; and (8) formation of partnerships to advance these values (American Library Association Core Values Task Force, 2000). Such values underscore fundamental human elements relating to information needs and practices.

Danner recommends that librarians examine the relationship between professional skills and values expressed in a report of the ABA Section on Legal Education and Admissions to the Bar Task Force on Law Schools and the Profession, known as the MacCrate Report. The legal profession shares librarians’ problem of maintaining a unitary profession in an era of increasing specialization and division of labor among its members (Danner, 1998, p. 335). The MacCrate Report resolves the problem “by linking a comprehensive skills list to ‘fundamental values of the profession,’ which ‘inform and shape the lawyer’s use of professional skills’” (p. 335). Similarly, Danner (1998) asserts for librarianship that “while there may be value in compiling comprehensive lists of professional skills, it is not necessary to insist that all librarians possess the full set as long as the skills they do possess are underpinned by a shared set of values” (p. 335).

The MacCrate Report identifies four fundamental values of the legal profession: (1) provision of competent representation; (2) striving to promote justice, fairness, and morality; (3) striving to improve the profession; and (4) professional self-development. Danner notes that a recent ABA president has defined professionalism in law largely in terms of values. “For him the defining elements of professionalism are fidelity to ethics and integrity; service with competence, dedication, and independence; education as a means for growth and replenishment; civility and respect for authority; and commitment to improving the justice system and advancing the rule of law” (Danner, 1998, pp. 335-36).

Professionalism in librarianship should also be defined largely in terms of values. Librarianship has a rich and diverse heritage of professional values from which it can draw strength in meeting current challenges. Generalists can ponder Ranganathan’s Five Laws of Library Science: “Books are for use”; “Every reader his (or her) book”; “Every book its reader”; “Save the time of the reader”; and “The library is a growing organism” (quoted in Danner, 1998, p. 336). Similarly, Cohen (1971) provides six
principles for law librarianship as standards against which to test the profession’s performance. These standards require that law librarians:
(1) know and carry out the purposes and policies of the organization in which the library operates; (2) know their users and their work; (3) teach legal bibliography and research methods; (4) provide access to information through administrative or bibliographic techniques; (5) employ critical judgment in developing and organizing collections; and (6) recognize a duty to advance their art and profession.

On the whole, Ranganathan’s and Cohen’s statements have stood the test of time. As such, they describe truly fundamental values. These values serve both to anchor librarianship to its traditional emphasis on service and free access to information and to facilitate its adaptation to new settings. Common fundamental values also attract new librarians to the profession. In 1998, American Libraries interviewed several librarians in their twenties and noted that “early positive experiences with libraries and librarians drew them into the profession . . . . [T]heir faith in traditional library values and services is strong” (“Looking Ahead,” 1998, p. 38).

In March 1999, AALL membership approved a revised set of AALL Ethical Principles. These principles are “premised on several basic tenets including the notion that ready and open access to legal information promotes citizen participation in a democracy and that legal information needs are best served by professionals who believe that meeting these needs is a noble calling” (American Association of Law Libraries, 1999). The principles are organized under the categories of “Service,” “Business Relationships,” and “Professional Responsibilities.” Not surprisingly, some of these principles have much in common with the legal profession’s value statements mentioned earlier. Others relate to the advancement of the profession. Professional self-development is addressed by the statement that “we strive for excellence in the profession by maintaining and enhancing our own knowledge and skills, by encouraging the professional development of co-workers and by fostering the aspirations of potential members of the profession.”

Codes of ethics inform the public about the professional values of a group and provide ethical principles that guide practitioners in their daily work. The ALA Code of Ethics states as much: “As members of the American Library Association, we recognize the importance of codifying and making known to the profession and to the general public the ethical principles that guide the work of librarians, other professionals providing information services, library trustees and library staffs” (American Library Association, 1995).

Practicing Good Librarianship in the Information Age
Good librarianship is rooted in client-centered service values and attitudes. Technology and market forces have changed the relationship
between librarians and information users. Information vendors' direct marketing to end-users and the rise of the Internet (and proprietary databases) threaten the librarians' traditional role of serving as an intermediary between information and the end-user (Miller, 2000, p. 6). The initial promise of direct access to seemingly unlimited electronic information, however, is often overstated. "Many of the claims made for the digital revolution have turned out to be false, and the reason is almost invariably that their makers have failed to understand the true complexity of the world in which the revolution is taking place" ("Predictions," 2000, p. 4). Such claims, typically made about electronic resources eliminating the need for print resources, often fail to recognize the limits of what is available online and the limitations of online search mechanisms for obtaining relevant information. A recent clash between Management and Agricultural Economics faculty members at Purdue University over the continuing availability of print resources in their library illustrates the division (and at times divisiveness) in modern information-seeking practices. Management faculty argue that they have access to everything they need electronically and that their students don't use the books, "nor do we want them to." Agricultural economics faculty view removing the stacks as a "scholarly disaster." "We expect [students] to go back in history to see what's been said on the topic. But that's impossible to do with electronic resources because few older books have been digitized" (Kiernan, 2000). These two faculties, which share common library space, disagree about the survival of print in the digital revolution. The Agricultural Economics group uses Web technology and is involved in distance education but maintains that they and their students "need more than just digital resources . . . everything is not going electronic." Management faculty reply that "electronic scholarship is here to stay . . . They're going to have access sooner or later, to all the books that have ever been written . . . This is the library of the future" (Kiernan, 2000). Such differing perceptions about information resources and information needs in the digital age challenge certain fundamental values in librarianship. Ranganathan's second law, "Every reader his (or her) book," is clearly at risk not only at Purdue but in any library in which hard choices must be made about allocating information resources.

How do librarians reconnect with end-users in this environment? Researchers initially empowered by the widespread availability of digital information are easily overwhelmed by the "problems inherent in any information system—disorientation, navigation inefficiency, and cognitive overload" (D.S. Brandt quoted in Danner, 1998, p. 347). Librarians have assumed increasing educational responsibilities for teaching users how to search effectively for information online and for advocating clients' interests with information producers. It is commonplace now for reference librarian positions to require teaching skills and for larger libraries to have
educational or instructional services librarians in addition to traditional reference librarians. Teaching end-users how to search databases and how to critically evaluate online information for accuracy and relevancy follows the tradition of bibliographic instruction. Librarians have long understood the complexities of the information-seeking process.

The prevalence of computers in education raises fundamental questions about modern educational methods and makes the librarian's information-seeking expertise pivotal to good educational practice. In a recent commentary in the *Chronicle of Higher Education*, an English professor writes: “We have changed our ideas about what constitutes the core of a good education. Learning how to learn has become the most fundamental skill that an educated person needs to master, and the instrument that enables learning in almost every field is the computer” (Kuriloff, 2000, p. A72). The author identifies educational benefits associated with open-ended searching on the Internet, such as learning how to navigate its nonlinear structure, but is concerned, as librarians are, about over-reliance on the Internet. “Although undirected exploration of the Internet . . . is informative, it does not constitute a good education. Students left to learn on their own may accept as truth the kind of unexamined thinking that proliferates on the Internet. We need to guide them, to teach them to think critically and analyze information” (p. A72). Librarians are accustomed to seeing beyond the bells and whistles of technology and to evaluating the quality, reliability, and application of information in appropriate contexts. Good practice in the digital age requires librarians to teach end-users effective database selection and search techniques but also to recognize the limitations of electronic research and to verify the authenticity of online sources.

Librarians have also been traditionally well-versed in building indexes and other finding tools. Commentators identify tool building as a critical function for librarians in the information age. “The real intermediation of the future will be the capacity to develop user interfaces” (Sada, 1999, p. 28). “If librarians truly are experts in the human elements of the information-seeking process, as well as in the content of information, we need to become more involved in tool building in order to be sure that content is accessible in ways that are meaningful to users” (Danner, 1998, p. 351).

In a recent issue of *Computers in Libraries*, with the theme of “Reinventing Librarianship: Focus on the End-User,” corporate librarians Peggy Bass Bridges and Suzette Morgan (2000) describe a new service model implemented at Harcourt, Inc.'s Resource & Information Center that provides library services to over 10,000 employees (p. 27). The model is predicated on empowering end-users and provides a good example of how relationships between librarians and end-users have evolved in the information age.

As of five years ago, the information center was a traditional corporate library that was responsible for managing corporate archives, providing
electronic clipping and document delivery, ordering books and journals for employees, and answering research questions. Today the Resource & Information Center provides the same services and also manages over thirty end-user databases, a table-of-contents delivery service, and a directory of 1,500 Web sites (Bridges & Morgan, 2000, p. 27). Databases are made available to employees through a site on the corporate intranet managed by the librarians. The librarians describe their role as information facilitators and partners in the information retrieval process. As architects of user interfaces, these librarians offer guidance for hands-on training, Web building techniques, and marketing information services within the organization. These are important building blocks of good practice in librarianship today.

Too often technologists ignore the human elements that contribute to successful online information retrieval and push for purely technological solutions to information retrieval obstacles. According to Danner, they “too readily dismiss the importance of ‘human factors’ in interface design, revealing both too much faith in the abilities of intelligent interfaces to overcome the difficulties and complexities of the information-seeking process and too little understanding of the actual needs of human information seekers, who require context to be successful in their quest” (Danner, 1998, pp. 347-48). Bridges and Morgan’s (2000) understanding of their relationship to their clients prioritizes context and foreshadows their success in reinventing their library. “In this information retrieval partnership, we must understand our end-users as individual researchers. We need to know what kind of information they seek, be familiar with the products and services they produce, and design library services that fit their needs” (p. 28).

“Reinventing” is a term that is often thrown around loosely in the business world. At its worst, it is an ill-conceived management ploy smacking of desperation and lacking substance. In the right situation, reinventing an organization is a necessary response to changing conditions. Reinvention should be predicated on meeting actual needs, embracing shared values, and maintaining a commitment to developing new skills and ongoing learning. Bridges and Morgan (2000) set an example for good practice in librarianship in the information age:

We have learned that reinventing our library is more than subscribing to online products and dispensing passwords. It is a process of expanding our skills to become designers, writers, public speakers, trainers, and marketers. It’s a process of learning communication methods that match a virtual world. As end-users become our partners, we must recognize the inherent gaps in the information-exchange process and view them as opportunities to add more pieces to the information retrieval puzzle . . . . With apparently no end to this puzzle, we are less limited by our funding than by our imaginations. (p. 31)
CONCLUSION

Despite frequent warnings in the library literature, malpractice suits against librarians have not materialized. Good practice should be the standard against which librarians' professionalism is measured. For librarians, the heart of good practice lies in maintaining the core values of librarianship while adapting to continually changing information environments.

NOTES

1 Core competencies of the Special Libraries Association and draft core competencies of the American Association of Law Libraries are discussed in Part III of this article under "Professional Groundings of Librarianship."


3 Conduct for which lawyers have been typically disciplined includes conflicts of interest, breaches of confidentiality, violations of lawyer advertising and soliciting rules, fraud, and improper fee arrangements.


REFERENCES


Mouse Click Plagiarism: 
The Role of Technology in Plagiarism and 
the Librarian’s Role in Combating It

Nicole J. Auer and Ellen M. Krupar

Abstract
The proliferation of paper mills, full-text databases, and World Wide Web pages has made plagiarism a rapidly growing problem in academia. Possible factors influencing student behaviors and attitudes toward plagiarism include ignorance, lack of personal investment in their education, situational ethics, and lack of consistent styles among and within various disciplines. Librarians are in a unique position to help prevent and detect plagiarism by forming partnerships with faculty to re-examine assignments and instructional sessions and by informing them of Internet paper mills and useful Internet search strategies.

Introduction
In a Seattle Times article, Leon Geyer, the faculty advisor for the undergraduate honor system at Virginia Tech, was quoted as saying: “In the olden days, a student had to go to the library, dig up the information and retype it. Now you can sit in your dorm room and just reach out, point and click” (Benning, 1998, paragraph 8). Benning further stated: “Teachers and administrators agree cheating is on the rise—computers have made it so easy” (paragraph 4).

Historical Perspective
As Wilson Mizner said: “When you steal from one author, it’s plagiarism; if you steal from many, it’s research” (quoted in Bartlett, 1992, p. 631).
Plagiarism was probably the second idea. Views on plagiarism have changed over time. Often, imitation in phrasing or style has been seen as complimentary or respecting the learned masters. In some art, using the same motifs or arrangements to reflect on a historical manner of creation is the proper thing to do. Students also learned how to do something by copying a finished piece. Even today, students of art paint imitations of great works in order to learn techniques such as brush strokes, use of color, or depiction of perspective. However, in such cases, the students are not passing off these imitations as an original expression of a creative impulse. Today, many students are stealing material from the Internet and turning it in as their own work, either directly from paper mills or by “cutting and pasting” from various pages. \textit{TeachWebNews} quotes teachers as saying that “cheating, especially in the form of plagiarized term papers, is on the rise because of the easy availability of material on the Internet” (paragraph 2).

The Problem

Cases from the Virginia Polytechnic Institute and State University (Virginia Tech) Undergraduate Honor System Web site illustrate what we, as a profession, must prepare ourselves and our faculties to confront. Figure 1 shows the honor court statistics at Virginia Tech for the last three years which clearly illustrate a marked increase in the total number of honor code violations in that short amount of time. Interestingly, half the cases for 1998/1999 were reported during exam week.

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<tr>
<td>Number of Cases</td>
<td>142</td>
<td>282</td>
<td>450*</td>
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<tr>
<td>Guilty by Judicial Panel and affirmed by Review Board</td>
<td>77</td>
<td>175</td>
<td>182</td>
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<tr>
<td>Not Guilty by Judicial Panel</td>
<td>42</td>
<td>100</td>
<td>16</td>
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<tr>
<td>Dismissal by Review Board or Chief Justice</td>
<td>23</td>
<td>7</td>
<td>1</td>
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<tr>
<td>Other-pending, transferred to Graduate Honor System</td>
<td>0</td>
<td>0</td>
<td>252</td>
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*230 cases since April 30, 1999

Figure 1. Judicial Statistics for the Virginia Tech Undergraduate Honor System.
One sample case involved four students who all turned in the same, or nearly the same, paper in the same class. In contrast to traditional methods of plagiarism, the students did not copy off each other or take from a stock of papers available at a local campus fraternity or sorority. Instead, students used computers to search the Internet for the same assigned topic in the same paper mills and happened to select the same paper to propose as their own work. All four were found guilty and given Class I1 sanctions which, according to the Virginia Tech Honor System Constitution, includes honor system probation and education, recommended double-weighted zero on the assignment or on any grade affected by the offense, and fifty hours of university service (*Trial Abstracts*, n.d., paragraph 8).

**CONTRIBUTING FACTORS**

Several theories are proposed to explain the recent increase in plagiarism cases. Contributing to the explosion of plagiarism, particularly involving Internet-based resources, is the historically libertarian nature of the Internet where commentary is free-wheeling and anti-establishment. Gresham (1996) states that library users have trouble realizing that Internet material is intellectual property worthy of proper citation. In fact, Macdonald and Dunkelberger (1998) found that only 7 percent of their sample of students cited information found on CD-ROM or via the Internet as coming from an online source but rather cited the information as coming from a print source.

Compounding this issue is the lack of consistency among citation style guides, particularly regarding online information (Malone & Videon, 1997; Fletcher & Greenhill, 1995). Fletcher and Greenhill (1995) found Xia Li and Nancy Crane's (1993) work *Electronic Style: A Guide to Citing Electronic Information* to be the only style guide with a consistent system for citing online information. Although this work was originally published before the widespread use of HTML, the 1996 revision includes citations for World Wide Web documents. The latest print *Publication Manual of the American Psychological Association* (APA), copyright 1994, does not adequately address online information. There is an update on the APA Web site ("Electronic Reference," 2000), but it still does not cover all types of online information such as listserv postings. Further, there are a number of Web sites providing individual interpretations of the different styles, with no official blessing by the professional associations. More importantly, each of the different citation styles uses such different formats, requiring different bits of information. It is not uncommon for a student to become very confused between APA and Modern Language Association styles. Depending on what the professor prefers or the discipline of study, a student may be required to use four different styles in one semester. It is no wonder that sometimes the student gives up and does not cite information properly.
Further, some students do not know what plagiarism is or, if they know that it is wrong, they do not understand at what point using sources passes into plagiarism. Students’ understanding, or misunderstanding, of the concepts of collaboration, fair use, and plagiarism can lead to the act of plagiarism itself (Maramack & Maline, 1993). Indeed, students “often cannot tell the difference between correctly paraphrased versus plagiarized text” (Roig & DeTommaso, 1995, p. 694). Most students, particularly first-year students who often think in concrete terms of black-and-white, require clear-cut examples to demonstrate the fine line between paraphrasing and plagiarizing. Some definitions, including two that are local to our institution, include:

Plagiarism—Plagiarism includes the copying of the language, structure, ideas and/or thoughts of another and passing off same as one’s own, original work, or attempts thereof.—Undergraduate Honor System (http://fbox.vt.edu:10021/studentinfo/ugradhonor/html/definitions.html)

Cheating—The definition of cheating is to knowingly use unauthorized assistance in submitted work as one’s own efforts or to knowingly submit another’s works as one’s own ideas, thereby intending to gain an unfair advantage, or intending to deceive or mislead. Actions that assist another to do these things also constitute cheating.—VA Corp of Cadets (http://www.vtcc.vt.edu/cadet_life/honor_system.htm)

Plagiarism. The action or practice of plagiarizing; the wrongful appropriation or purloining, and publication as one’s own, of the ideas, or the expression of the ideas (literary, artistic, musical, mechanical, etc.) of another.—Oxford English Dictionary, 1989

Cheryl Ruggiero (n.d.-a), professor of English at Virginia Tech, created an online tutorial to help her students identify the many forms of plagiarism (see Figure 2 for examples that she uses to illustrate the differences).

Cutting and pasting from computer-based information using networked computers is easier than retyping material from a book. This is often compounded by the recent trend of university-wide computing requirements, where universities require students to arrive on campus with a computer. Since all students are required to have computers, they are now capable of cut and paste plagiarism. In a recent New York Times article, it was pointed out that cheating is now “so effortless” that students may be “inured to the ethical or legal consequences,” thinking it no worse than exceeding the speed limit (Zack, 1998, paragraph 5). Students believe that they have as little chance of being caught as when they are speeding down the road. Speed is a factor, with technology eliminating the opportunity to reflect during the writing process. Cutting and pasting from the Internet and word processing in general is much faster than retyping on a typewriter. This leads to carelessness in thought, carelessness in citing
The association between humans and dogs began as a hunting relationship before organized agriculture had been developed. This Paleolithic cave painting dates back to about ten thousand years ago and shows a Stone Age hunter who has successfully killed an eland with the assistance of his dogs.

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**Explanation:**

The student has typed in Coren's words exactly in the first copied sentence and altered only one word in the second.

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Dogs have been "man's best friend" since long before recorded history. The association between humans and dogs began as a hunting relationship before organized agriculture had been developed. One Paleolithic cave painting dates back to about ten thousand years ago and shows a Stone Age hunter who has successfully killed an eland with the assistance of his dogs.

---

**Explanation:**

The student has re-arranged a few words and substituted a few of her own words, but the idea and the order of development are Coren's.

---

Dogs have been "man's best friend" since long before recorded history. Dogs and humans first got together as hunters. Cave paintings provide some evidence for this early teamwork. One 10,000-year-old painting shows a Paleolithic hunter and his two dogs after they have killed an eland.

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**Explanation:**

The student has put the ideas in her own words, but those words imply that SHE discovered the teamwork and the cave painting through her own research, since Coren's idea and research are not acknowledged.

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Figure 2. Examples of plagiarism that illustrate plagiarism by direct copying, by paraphrasing, and by theft of an idea (Used with permission. Source: http://www.english.vt.edu/%7EIDLE/plagiarism/plagiarism3.html).
material, and ultimately to plagiarism. This speed can even lead to carelessness in plagiarism, where many students do not even effectively cover up their plagiarism. A colleague at another academic university was told by a professor that he is often able to spot cases where students have plagiarized by cutting and pasting from the Internet because the plagiarists are so careless that they do not change the font of the Web material to match the rest of the document.

The Center for Academic Integrity reports that "cheating is highest in those courses where it is well known that faculty ignore cheating or fail to report it to authorities" (Research Highlights, n.d., paragraph 5). Maramark and Maline (1993) report on studies which indicate that "cheating is less likely to occur when there are threats of detection or sanction" (p. 5). It therefore can be seen that a campus environment that is casual in dealing with instances of cheating may itself encourage it. In a study of why students cheat, McCabe and Trevino (1993) found that "the perception of peers' behavior [may provide] a kind of normative support for cheating" (p. 533).

**Student Attitudes**

Causing students to really care about plagiarism is more important than mere explanations of its illegality. Caring is the important part. There are Web paper mills boasting slogans such as "Download your Workload" and offers papers such as "The Impact of Institutional Investors on the Securities Market." This essay from 1984 is available from the A1 Term Paper site for $71.60 (http://www.al-termpaper.com/bus-stk.shtml). Definitions or examples alone are not likely to convince a student with access to that site to resist plagiarism and instead stay up until 3 A.M. to get the paper done. Temptation to buy that paper rather than slog through the writing can overcome all fear of being caught. And if a professor has assigned a paper that is more specialized and not available in the general paper mill area, a foresighted student can commission a paper done on any particular topic. Customization means, of course, that the price goes up. For the price of $20 for the first page, $10 for each additional page, $10 for a bibliography, $10 for footnotes and the wait of three to four days for e-mail delivery, a student can have a paper written to the exact specifications of the professor. As an added benefit, students have all that time off from working on the paper. Roig and DeTommaso (1995) studied the relationship between procrastination and academic dishonesty and found that "students who score high on academic procrastination may be more likely to engage in plagiaristic practices" (p. 694).

Worst of all are the students who are not gradually seduced into the convenience of a paper mill, but who know from the start that it is wrong but do not care—defiantly do not care. A student told one of the authors to her face that she could not prove that he would not cheat on the home-
work she had assigned him. Ironically, a few minutes later, he was signing up for another section of the class, an ethics challenge. He did not understand when her reaction was to sarcastically wish him luck on the ethics challenge. The Center for Academic Integrity reports that results from surveys conducted in 1990, 1992, and 1995 indicate that 75 percent of students self-report some cheating while “almost 80% of undergraduate student respondents reported one or more incidents of cheating” (Research Highlights, n.d., paragraph 2).

An English professor at a well respected university, who requested anonymity, posted this story under the subject heading, “A classroom first . . .” to an Internet listserv:

Just by chance last semester I was grading final papers and discovered, while cruising websites on mind-altering drugs (the final paper was based on the Aldous Huxley novel *Brave New World*) that a student had lifted two or three entire paragraphs from an amateurish website on Prozac. It was the sort of plagiarism that is very hard to spot because the lifted material wasn’t of much better quality than the student’s own writing. However, I recognized the passage. I notified my department chair and gave her [the student] an F for the paper. She still passed the class (though now I wonder what other papers contained plagiarized material that I just didn’t catch). When I returned her outraged phone call, she kept saying, “I can’t believe you’re doing this to me! I worked so hard in this class!”

The professor’s conclusion? Her students have a “consumer mentality when it comes to grades, and seem to believe that they should get grades based on effort rather than on achievement.”

And why shouldn’t students have this attitude? Universities have also fallen prey to the consumer mentality, this time directed at students. With the proliferation of “Maymesters,” which contrive to give the illusion that you can condense a semester’s worth of learning into a short few weeks, universities have given up some of the pretense that learning is the purpose of classes. One of our colleagues at another academic library, when confronted with a maymester student, said “Thank you for your money.” With students cut off by time constraints from interlibrary loan, retrieval of articles, or even the time to analyze information, what exact message are the students receiving on the value of any knowledge they may accidentally glean from their frantically paced class? As the television character President Jed Bartlet of The West Wing said in the episode “What Kind of Day Has It Been?” when speaking of youth apathy on voting: “Are we failing you or are you failing us? . . . A little of both” (episode 22, season 1, May 17, 2000).

This is compounded by the change in purpose of university attendance from actually learning something to getting a job with the degree that signifies that you supposedly learned something, even if it is focused on learning how to learn (Fain & Bates, 2000). In a consumer society,
students have been trained in the fine art of cost/benefit analysis. Several years ago, one of the authors objected to a change in terminology for library users from "patron" to "customers" because the latter encourages the attitude that students have paid for information rather than for the opportunity to learn how to learn. Somewhere the learning of the individual becomes separated from just getting the work done, leading to situations where students justify plagiarism and cheating based on various factors such as the assignment, the professor, the class size, and the importance of the grade. These situational ethics are seen in the results of a survey done by Michael Moffatt (1990), who found that one way students "fine-tune their situational moralities is to claim they only cheat in the unimportant courses they 'have-to take' in college, never in their majors" (p. 16). For some students, all of the courses in college are ones that they "have-to take." These students need a college degree for entry to a particular job or career and may see little of no justification for that requirement. Even within librarianship, library school can be considered a rubber stamp that you need to get in order to work in the profession rather than an actual learning experience.

A former teacher sent a condemnation of this trend to one of the authors under the subject line, "College-Educated Cashiers." Too many of her students were only in college because their careers required a bachelors degree as an entry requirement, even though years ago those jobs did not require college degrees. She decried the fact that these students were wasting four years getting a degree when they should have spent time accumulating experience in their careers. The result was that these students were not interested in learning and diminished the educational experience for those students who did want to be in her classes (McGee, personal communication, 2000).

Students may also not be as personally interested in their own education versus their career aspirations. Haines, Diekhoff, LaBeff, and Clark (1986) found in a study of cheating that students who were not paying for their own tuition and books were more likely to cheat, perhaps due to a lack of "personal financial investment" in their education (p. 352). Even students who are concerned about the learning part of their education may justify plagiarism based on the fear that others are already cheating, causing "unfair competition" (Fain & Bates, 2000). Donald McCabe (1992) of Rutgers University talks about the denial of responsibility of academic dishonesty by students who justify cheating based on the behavior of their classmates (p. 369).

Perhaps an additional problem is that there are varying responses to plagiarism outside academia. Even though the journalism world is a world of words, depending on the concept of intellectual property, when Trudy Lieberman (1995) examined "twenty newspaper and magazine plagiarism cases" since 1988, she found that the "punishment is uneven, ranging from severe to virtually nothing even for major offenses" (paragraphs 4, 7,
The for-profit world of the visual arts (movies, television, painting, photography, and so forth) takes plagiarism much more seriously. For example, the creator of *Babylon 5*, a science fiction television show, had a standing policy that fans not send him story ideas or even speculations on what was going to happen. The reason was that if anything even vaguely matched what he did in the show, he was open to being sued by that person. Despite his policy, one of his fans did send him a speculative note, resulting in the fan having to sign a legal document that he would not sue before the show was filmed (Wexelblat, 1996). In the world of written fiction, many major authors will not read new authors’ manuscripts, fearing that they will be sued for stealing someone else’s work.

**Faculty Attitudes**

Faculty are often reluctant to report students for plagiarism for a complex array of reasons. Maramark and Maline (1993) list some of these reasons: “lack of knowledge of institutional procedures,” “cases are difficult to prove,” “sanctions are inappropriate for offense,” the likelihood of damaging “the student’s reputation or career,” that it would “reflect negatively on their teaching skills,” and “fear of litigation” (p. 6). Sometimes the faculty member may lack the knowledge of how to report it or what will be the consequences for the student. Donald McCabe of Rutgers University conducted a faculty survey in 1993 to determine whether faculty had ever reported cheating. Among 800 professors at sixteen institutions, 40 percent said “never,” 54 percent said “seldom,” and only 6 percent said “often” (Schneider, 1999, p. A8). While part of the results could have been from confusion of what the different levels of plagiarism are (after all, what does “often” mean to you? Once a semester? Twice in an academic year? Twice in an academic career?), it does show that being caught for plagiarism is on a par with being caught for driving over the speed limit—a lot more people are doing it than are being caught. Singhal (1982) surveyed eighty Arizona State University (ASU) faculty and found that “while 65% of the faculty caught students cheating in some form, only 21% of them reported it to the ASU administration and only 57% of the faculty covered the topic of cheating in their course orientation” (p. 778). Sometimes a professor would prefer to work out the violation with the student directly rather than have the violation be part of the student’s permanent academic record. In a case involving one of the authors, a student had obviously copied the work of another student on one of the three library homework assignments, which are part of the student’s final grade for the class. The matter was turned over to the professor who was reluctant to go to the university level with it due to concerns about damaging the student’s permanent record. Eventually the professor decided to give the student zeros for all of the library assignments, resulting in zeros for six assignments comprising 15 percent of the final grade. While the
punishment was severe in the context of the class, it was never reported at the university level, leading one to question whether statistics on academic dishonesty must be treated as merely the tip of the iceberg, with some cases never being reported. What does lead to a case actually getting to the university? Maramark and Maline (1993) report from a survey of faculty that “the nature and severity of the offense dictated how each case would be handled” (p. 6).

Another factor that can dissuade faculty from pursuing a charge of academic dishonesty is the time requirements. This is especially true if the university judicial system is time-consuming and/or complicated. Cheryl Ruggiero (n.d.-a), an English professor at Virginia Tech, reported that two students, because they had plagiarized papers in her class, “stole about 15 hours of my time from my other students” (paragraph 6). Joe Kerkvliet, an associate professor of economics at Oregon State University, found in a self-report survey that 500 students in twelve classes reported cheating anywhere from .002 percent in one class to 35 percent in another class (Schneider, 1999, p. A9). Multiply 7.5 hours to pursue an academic dishonesty charge times 35 percent of a class and it is clear why some professors choose to not recognize or pursue plagiarism. Schneider (1999) found in talking to professors that most thought that their university’s judicial system was “laborious, even labyrinthine” (p. A8). Craig Thompson (1998), who left academic teaching after a dozen years, said that he had better things to do than make trouble for himself, especially since the punishment for plagiarism was “small” (p. 49).

WHAT CAN WE DO?

The librarian’s role on campus has been somewhat limited in the past. Access to students has been through point-of-use aides, reference interviews, and instructional classes. Librarians must now actively seek out new roles on campus that will create open and regular dialogues with students about information and its ethical use. Carla Stoffle, dean of Libraries at the University of Arizona, during her talk as featured speaker at the Library Orientation and Exchange (LOEX) 2000 conference, encouraged librarians to partner with faculty in curriculum development as an educational role, integrating information literacy directly into the class. Trends toward student-centered learning have opened up many opportunities. Freshmen seminars and learning communities, to note only two, offer librarians the chance to get to know students on a personal level and to exchange ideas while on common ground. These shared experiences can create a pathway toward making students comfortable with asking questions and seeking answers from their librarians.

Informing Faculty—Paper Mills, Software, and the Internet

With initiatives that increase the amount of writing throughout the
curriculum, more faculty need to be concerned about whether their students are plagiarizing. Composition and English faculty may already be aware of paper mills and software that detects possible plagiarism, but the majority of faculty are probably unaware that such sites and software exist. Librarians with liaison responsibilities or those who have good rapport with academic departments should begin a dialogue with faculty about the extent to which students plagiarize in their classes and provide information about Web sites and software. This may help the faculty battle the problem. Basinger and McCollum (1997) discuss the work of Anthony Krier, a librarian from Franklin Pierce College in New Hampshire, who has maintained a Web-based list of paper mills. His compiled list of paper mills is now available to members of the Center for Academic Integrity (http://www.academicintegrity.org). These authors were unable to confirm this due to the material being placed in the members-only section. William McHenry’s (1998) Web site offers another very useful comparison table of paper mills for those who wish to investigate possible incidents of plagiarism.

Once plagiarism is suspected, the librarian can help the professor through both traditional and technology-oriented methods. Before the advent of software and Internet checking methods, professors ended up looking through sources and trying to find the original material. Early in the career of one of the authors, she helped a professor check through literary criticism sources such as the Contemporary Literary Criticism and Twentieth Century Literary Criticism, looking for material that seemed out of place in a student’s paper, both by concept and vocabulary. This method was very time consuming and carried limited promise of success. Today, there are myriad software packages and Internet sites available to a professor who suspects plagiarism especially if the professor’s students submit papers electronically.

Preventing plagiarism before it happens is better than detecting it after the event. Librarians, as research and information literacy experts, should help faculty examine their existing or future assignments to determine the ease with which students could plagiarize. To make plagiarism difficult, faculty should consider “requiring topic proposals, idea outlines, multiple drafts, interim working bibliographies and photocopies of sources” (Hinchliffe, 1998, paragraph 4). This has the added benefit of reducing the likelihood that a student would plagiarize based on lack of time, since the requirement to regularly submit the steps displaying progress on a paper leads to less frantic time pressure. Requiring working bibliographies with annotations of what the students have learned from each source can also provide an opportunity to teach students how to differentiate between their own ideas and ideas that they have gleaned from their sources (Miller, 2000, p. 420).

Renard (1999/2000) also offers faculty several suggestions for preventing plagiarism. A teacher should get a sample of in-class writing at the
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| Plagiarism.org                   | Originality report                                | $20 for first 30 papers uploaded and $.50 for each additional one. | - Paper mills  
- Professor-submitted papers  
- Internet sites |
| http://www.plagiarism.org       |                                                  |                                           |                                                                        |
| IntegriGuard Inc.                | E-mail to professors about which sentences “failed” | $4.95/month (1998)                      | - database of papers.  
- students submit papers electronically to nocheating.com and the company then tests each paper for plagiarism |
| http://www.integriguard.com      |                                                  |                                           |                                                                        |
| Glatt Plagiarism Screening program | Plagiarism probability score                      | $250-300                                 | Eliminates every fifth word from student papers. Students can then be asked to fill in the blanks. |
| http://www.plagiarism.com        |                                                  |                                           |                                                                        |
| Essay Verification Engine (EVE2) | Provides links to Web sites from which students may have plagiarized, % of paper plagiarized, annotated copy of paper with all plagiarized sections highlighted. | $19.99 per teacher. Unlimited use. | Performs Internet searches. |
| http://canexus.com/eve/index.shtml |                                                  |                                           |                                                                        |
| WordCHECK                        | % of match between compared data                 | $95-293 for software download            | Keyword uses and keyword frequencies                                  |
| http://wordchecksystems.com      |                                                  |                                           |                                                                        |
| Web Sites                        |                                                  |                                           |                                                                        |
| Findsame                         |                                                  |                                           | Better at detecting cut-and-paste plagiarism from Internet sites than comparing to paper mills papers |
| http://findsame.com              |                                                  |                                           |                                                                        |
| Digital Integrity Inc.           |                                                  |                                           |                                                                        |
| AltaVista.com                    |                                                  |                                           | Search Web sites for unusual words or phrases                          |
| HotBot.com                       |                                                  |                                           |                                                                        |
beginning of the term. This gives a basis for comparison to see if a later paper matches the original sample based on tone and level of ability. Having the original essay done in class precludes plagiarism on the comparison essay and gives a base line for comparison. Another suggestion is to make writing assignments more interesting and thus less likely to be easily available on free or cheap paper mills. Tom Rocklin, a professor at the University of Iowa, says that when teachers give broad general-knowledge papers, they are unwittingly encouraging students to cheat (Zack, 1998, p. B11). Papers that are mere recitation or recounting of information are the most vulnerable for cheating, not only because these types of papers are the most available from paper mills, but also because students have the least amount of themselves invested in the paper. When personal connections to a topic or personal experiences are expected, students are more likely to engage in higher-level thinking skills (Renard, 1999/2000, p. 41). A professor at the University of Maryland has changed the writing assignments in one class, requiring more personal writing, due to the rise in Internet-related cheating. He knows that Internet-related cheating happens since he has caught students trying to use material from the Internet (Lemke, 1999, paragraph 8). While a student can still commission a paper written on a more inventive topic, it is usually much more expensive than a more generic one, hopefully creating a fiscal barrier to plagiarism.

One of the most basic and overlooked methods of preventing plagiarism is to talk to the students about it, both defining it and what the professor's policies are concerning it (Hinchliffe, 1998, paragraph 4). Making students aware that professors are concerned and are looking for plagiarism can discourage at least the casual incidents of the quick cut-and-paste type of plagiarism. What arguments can be used to persuade students not to plagiarize? Kroll (1988) studied students' views on plagiarism and found that the majority of student comments fell into three categories. Forty-seven percent of students expressed the belief that they have a responsibility to themselves not to plagiarize "either because plagiarism involves cheating oneself (usually out of learning or improving as a writer), or because it violates the duty to do one's own work (and thus use one's own mind or creative capacity") (p. 211). Fairness was cited by 46 percent of students as a reason for not plagiarizing; the students cited the injustice of not giving credit where it is due or the giving of credit to those who do not deserve it (Kroll, 1988, p. 212). Lastly, 36 percent of students equated plagiarism with theft of property, an illegal act understood by all students (Kroll, 1988, p. 213).

Instruction

Instructional sessions would seem the perfect method for providing students with information about how to appropriately use Web pages and full-text articles in their research. Librarians have an ethical obligation to
teach bibliographic citation methods and strategies for how to best avoid plagiarism, especially of Internet sources (Gresham, 1996; Malone & Videon, 1997). However, every librarian who does instruction has faced the dilemma of deciding what to include in his or her instructional sessions. Since information literacy is seldom integrated into the curriculum, most of us are grateful for even a fifty-minute class where we can introduce the bare essentials of the research method. At Virginia Tech, the library’s representative to the Undergraduate Honor System appealed to librarians who do instruction sessions to cover plagiarism more in their sessions, a request prompted by a sharp increase in honor code violations (see Figure 2).

We argue here that plagiarism should be considered a vital topic for every class. It takes only a few minutes to introduce the concept and consequences of plagiarism and to point out to students where citation style guides can be found. Librarians should also indicate the questionable quality and age of most papers available on the Internet, and that students could get into trouble for plagiarizing, submitting a poorly written paper, or both (Targett, 1997; McHenry, 1998). It is also helpful to suggest to students that they start the research process early, choose a topic that truly interests them, consciously avoid selecting materials solely based on full-text electronic availability rather than quality of material, and keep a record of their citations to assist with the creation of their bibliographies.

Those librarians with good collaborative relationships with faculty might establish additional contact with students through a second class period, a brief question-and-answer session in the regular classroom, a course listserv, or with a course chat room. Perhaps the best method involves working with the professor directly. Working directly with professors to integrate a discussion of plagiarism into the instructional session will help the faculty integrate the topic into their classes as well as offering an opportunity to present information about designing assignments in a way that will combat plagiarism.

Web-based instruction shows great potential for actively engaging students in learning how to avoid plagiarism and how to create citations. Instead of reinventing the wheel, librarians should seek permission to use tutorials already in existence or form partnerships on campus to create their own. Successful integration of such a tutorial into the curriculum depends upon nurturing relationships with faculty and demonstrating the widespread need for it to administrators through statistics and faculty testimonials.

**Handouts**

The purpose of any instructional class or reference interview is to point students to information they can either find on their own or take with them. The proliferation of the World Wide Web and other electronic
resources seems to be contributing to declining numbers of questions being asked at reference desks. According to calculations based on data from the Association of Research Libraries (ARL) Web site, reference transactions for eighty-three of its member libraries have decreased by approximately 18 percent between 1996 and 1999 (Association of Research Libraries, 1998-99, table 1). For this reason alone, print and online guides need to be readily available for students to find information on their own. Therefore, librarians need to provide students and faculty alike with information, in various formats, about citing online information. Both print handouts and Web pages can give students information about how to use various citation styles and where to find more information about this issue. Handouts are particularly useful since they can be used in any setting and students can write notes directly on them for future reference. Web pages are useful for pointing to external Web-based style guides. Such a “Webliography” might include Nancy Crane and Xia Li’s authoritative Web-based guide “Bibliographic Formats for Citing Electronic Information” (http://www.uvm.edu/%7encrance/estyles).

Library Web pages and handouts are perfect for handling questions at the reference desk since they are easy to point to or distribute at the moment of need. Since initial contact at the desk usually leads to more questions, librarians can raise students’ awareness of the need to cite information by mentioning it early on and by offering ready-reference materials and referrals to Web sites, help pages, or the on campus writing centers.

CONCLUSION

As libraries increase the number of full-text resources such as electronic journals, Web sites, and periodical databases (e.g., InfoTrac), so does the need to educate users about the ethical use of information. In fact, this ties in nicely with the Association of College and Research Libraries’ (ACRL) Information Literacy standards that were approved at the American Library Association (ALA) Midwinter Conference 2000. This document spells out particular student outcomes that universities and their libraries should strive toward in their curriculum. The last section deals specifically with the difficulties that students have in understanding issues related to plagiarism, copyright, and the use of citation styles (“Information Literacy,” 2000). University administrators are slowly recognizing the need to ensure that their graduates are not only competent users of technology but also able to find and use information. Therefore, our responsibility always has involved, and will always involve, increasing our users’ awareness of the ethical and legal implications of using information.

In order to better educate our users, we must first be aware and informed ourselves. Campus resources are valuable sources of information in this area since they reflect how other units on campus are approaching
these issues. A search on the Internet can identify other resources that might expand or improve one's understanding of the definitions and situations surrounding plagiarism. A cursory search on AltaVista of university writing centers and plagiarism retrieved 146 results, many of them directly related to the topic. It is also useful to discover the number of plagiarism cases reported on campus to capture an accurate picture of how prevalent (or how underreported) acts of plagiarism are on campus. This information can then be used to begin a dialogue with faculty. Librarians should work with faculty in not only redesigning research assignments, but also work with them to re-examine their curriculum in order to identify points and places where discussion or information about plagiarism should be discussed with students. Librarians should supply faculty with helpful pointers to paper mills, detection software, and Internet search strategies that faculty can use to investigate plagiarism when a case is suspected.

It is obvious that students are in great need of guidance on how to use information ethically and legally. Instructional sessions with librarians should include direct information about plagiarism and its consequences along with practical steps students can take to avoid the risk of plagiarism in their research assignments.

To predict the future would be risky at best. Currently there is somewhat of a mish-mash without much guidance on what or how to cite Web information, with different style manuals gathering different information, not all of which is available. Even the sites that are updates of the usual citation guides, such as APA, are not especially helpful. However, it is hoped that the future will see the creation of consistency among style manuals, particularly in regard to citing Internet material.

REFERENCES


Technological Implementations and Ethical Failures

ROBERT HAUPTMAN

ABSTRACT
Librarians have always favored technological innovation, but the implementation of these devices and systems costs money that otherwise might have been spent on materials. Once in place, the technology alters the ways in which we interact with data and information, and this often results in problems including charges, hacking and cracking, lack of information integrity, inappropriate e-mail, cheating, plagiarism, pornography, and so on. Ethical sensitization is touted as a way of solving these problems, but sometimes it is an inadequate solution.

INTRODUCTION
As new forms of information technology (IT) have become available, libraries and information centers have eagerly embraced and adopted them; telephones, copiers, microforms, online searching, automated circulation and acquisition systems, COM reader/printers, CD-ROM networks, end-user online access, fax delivery, e-mail, Internet databases, and other devices are integral parts of librarianship. Information delivery is enhanced, and users are pleased with the efficient results. But each of these implementations costs money, and the funds that otherwise might have gone to purchase traditional materials are diverted to expensive systems or to nondivisible packages of databases or to a single publishers' entire run of online serials, many of which are inappropriate for a given institution. And because businesses are confused by bottom lines, they often egregiously overcharge for their products and force purchasers or leasers to
agree to unreasonable self-serving contracts. Administrators who must make budgetary decisions are placed in a difficult position but invariably opt for a technological solution, because they do not wish to appear to be reactionaries or Luddites and because they want to make every applicable resource available to their clientele. At Harvard or the University of California, where money is abundant, this is not as problematic as it is at a small liberal arts college or a poorly funded state institution. Independent information brokers or corporate librarians can simply amortize costs by passing them along to purchasers of either information or manufactured products. The primary way in which a public university library can increase its budget is through legislative mandate, and since legislators are notoriously mercurial, the fat years alternate with the lean and collections, instructors, and students prosper or suffer accordingly.

CONVENIENCE

Technology has changed the ways in which we create, store, and access data and information so dramatically that a real qualitative difference emerges. But, surprisingly, when one carefully analyzes the derived advantages of IT, the difference frequently boils down to mere convenience (which should certainly not be derided). If the same thing can be accomplished inconveniently and laboriously, funding might be better spent elsewhere, despite dissatisfied users who would have to come to the library, search through indexes or bibliographies, seek out materials, and make photocopies rather than have their home computers spew out not just citations, but the actual documents, with direct links to other appropriate materials. Instead of flying off to the Beinecke, the Folger, or the Bodleian, one can instead virtually fondle the manuscript or artifact on the institution’s Web site. To be fair, it should be noted that there are some technological implementations that offer possibilities unimaginable in other contexts: the vast quantities of (sometimes misleading or false) material available on the World Wide Web, the swift communication system provided by e-mail, and the manipulative ability of a software package such as the *Oxford English Dictionary*, which allows one to request all words that derive etymologically from, say, Japanese. The complete list would be generated in a few moments, whereas it would take a manual searcher years of painstaking culling to develop a similar but deficient compilation. Despite the beneficial advantages of IT, I wish to argue that an unthinking embrace of technological solutions is ethically unacceptable since it limits funding in other areas—e.g., purchases for serials, monographs, and special collections.

The more convenient technology becomes, the more exacerbated are the problems. Academic institutions now must cope with harassing e-mail messages, student online entrepreneurs, and various forms of cheating. Ubiquitous access to the World Wide Web on any one of hundreds of
library computers means that an occasional patron will purposely call up a controversial site in order to do legitimate research, to satisfy curiosity, or to annoy others. Since the evaluation of the worth or social appropriateness of material does not fall within the legitimate purview of academic information providers, it is impossible to effectively cope with this problem.

For example, a student working on a paper, thesis, or dissertation that deals with information contained on pornographic or Holocaust denial Web sites has every right to access them. Most serious scholars will do this in private or in a circumspect, nonconfrontational way. But those students who thrive on controversy may purposely call up an offensive site, leave it on the screen, and move away from the terminal. Naturally, the next user may be offended by the text or images. Ethical precepts do not help control a 14 year old with a malicious bent, but neither do they help if one's president, dean, or director demands the installation of filtering software since censorship, in any form, is unacceptable.

**MAJOR PROBLEMS**

The academic library today is extremely dependent on its computer systems. Different facilities, naturally, have different configurations, but virtually all American institutions of higher education now offer end-user access to CD-ROM databases or to those that use the Internet as a telecommunications conduit. Administrators may choose a full-text service and cancel both the hard copy indexes and journals that it has replaced; and thus, patrons not only come to depend on the new system, they now have no recourse should the database become unavailable. Despite the good intentions here, this amounts to logistical suicide, and as such must be considered unethical. Four simple but inevitable nightmares present themselves: either the institution's servers can crash or the Internet can have some technical problem or the provider's servers may overload or, most inconveniently, the company may go out of business. Then not only will there be no immediate access, but all retrospective materials (which, in many cases, are chronologically limited to the latest decade or so), will be expunged. This may not be of great concern at a smaller school, since its patrons can resort to interlibrary loan, but if hard copies exist only at a few major repositories, we will have greatly hindered our scholarly progeny.

Related to this is the dependence on full-text documents that such systems foster. No one, not even a serious scholar, will be willing to waste time tracking down hard copy or microformats when the same material is available at one's office or home terminal. For the less sophisticated freshman or sophomore who is instructed to locate one or two articles that fall within certain parameters, it is easy to mentally eliminate those pertinent papers that do not appear textually on the screen. There is, of course,
nothing wrong with this at the lower undergraduate level, but habituating
themselves to this form of instant gratification will take its toll when these
same students reach graduate school. There they will require more eso-
teric materials not available in full text but will balk at the inconvenience
of ferreting them out, since they have never had to do this during the
previous sixteen years. Making do with the material that comes up on the
screen or settling for an abstract in lieu of the complete article results in
intellectual limitation or epistemological fragmentation.

A third major flaw inherent in electronic information delivery is the
unacceptable quantities of ostensibly germane items that appear. Even
databases limited to very precise disciplines yield astronomical numbers
of hits when one does a general search. Many Web search engines pro-
duce tens of thousands of results, most of which may have nothing to do
with the topic (either because the search is too broad, the searcher does
not understand the engine, or the engine itself cannot distinguish among
the variously similar fields, items, terms, or requirements). Many social
critics have commented on information overload, but it is especially dev-
astating to unsophisticated or unknowledgeable students, since they have
nothing against which to judge, no way to evaluate the farrago of essays,
articles, home pages, data, and information that bombard them. They
choose what is at hand; they have other things to do.

A final problem results from the need to offset the extraordinary cost
of computer hardware, software, and database subscriptions by implement-
ing various charges. Academic institutions often tax students with an ac-
tivity fee, some of which may go to subsidize computer facilities that are
scattered around campus. Some labs and more publicly available refer-
ence equipment may be burdened with user or printing fees. Since the
library profession theoretically condemns charging for information on
the grounds that many colleges and universities are supported by tax dol-
ars, and since students already have paid tuition and other costs, addi-
tional charging is unwarranted. But no administrator is going to voluntar-
ily cut off this generous source of income, which may make the difference
between continuing to use antiquated or failing equipment and being
able to purchase new terminals and printers on an ongoing basis.

EXTERNAL THREATS

Computers can be externally manipulated to record and forward data
that the user may wish to protect. Many of the social problems concerning
privacy encroachments are only of passing concern in the present con-
text, but academic administrators who may decide to monitor library or
personal computers located in dormitories, offices, or homes do present a
challenge. The reasons for such monitoring increase as the social infra-
structure degenerates. In times of paranoia, crisis, terrorist activity, or war,
those in power may wish to make certain that students (and others) are
behaving. What could be easier than monitoring the college’s or university’s servers for unacceptable communications. That such activity is unethical, stifling, and a threat to intellectual freedom is of little concern to those with what they believe to be a positive agenda.

Cracking (malicious hacking) is perhaps the most fearsome threat to both individuals and the organization. Viruses, worms, Trojan horses, and other malicious programs can distort, harm, or destroy data, information, and software. A single autonomous individual anywhere on earth can render useless millions of computers and systems. Or a cracker can target the servers of a specific institution, attempt to extort payment and, when that fails, destroy the system, which is precisely what occurred in 1999 at St. John’s University and the College of St. Benedict, two sister schools in central Minnesota. It took many weeks to get the library’s computers back online.

Commentators allude to and even discuss the integrity of data and information, but the convenience of Web access, the astonishing quantity of ostensibly valid and reliable materials, the imprimatur of known individuals, companies, and presses all seem to militate against the possibility that a full-text database may be riddled with errors, a privately mounted paper may contain fabricated data, or a Web site might be misguided, incorrect, or despicable. Even sophisticated scholars may be seduced. Lower division undergraduates—i.e., just out of high school—are in no position to assess and evaluate material that appears to be legitimate. If the home pages of the White House, the Senate, and the FBI can be altered (Lundquist, 1999), it is obvious that anything that appears publicly in cyberspace can be distorted either inadvertently or purposely. Peer reviewed online periodicals as well as print journals that are disseminated online in full text through, for example, Gale’s Infotrac or OCLC’s First Search are probably no less accurate than they would be in hard copy, but only in a surrealistic Borgesian world could innumerable printings of the hard copy, deposited in countless repositories, be altered. In cyberspace, this is more than a mere possibility. Indeed, here the integrity of information is always suspect.

Useful Implementations

Despite the dismal tenor of much of the preceding commentary, it is nevertheless the case that there are many tasks that information technology enhances. Most beneficial are the devices and innovations that make communication possible or much easier for the disabled. The visually impaired or blind are now able to use computers through magnification systems, equipment that reads to a listener, and verbal input software. Similar technological innovations allow the physically disabled to efficiently access and disseminate information, which would have been impossible without help just a few years ago. To aid in the quest for an individual’s
physical and mental emancipation is extremely worthwhile, in spite of the negative aspects detailed above.

There can be few tenable counter arguments to the assertion that external access is a useful and beneficial development. Anyone with the requisite equipment (which continues to grow less expensive and easier to install and use) can now access not only electronic communications, library catalogs, Web materials such as home pages, interactive discussion groups, services, commercial exchanges, and general publications including newspapers, but those people legitimately associated with an academic institution may also call up hundreds of scholarly databases that offer citations, abstracts, and even the full texts of essays, articles, or documents. It is not necessary for all of this to be delivered to a computer desktop wherever one happens to be, but it cannot be denied that this is helpful, efficient, and desirable. People like convenience and are willing to pay for it. But it is just a simple step from financial to metaphysical remuneration: convenience is certainly worth a monetary sacrifice but, for the pragmatic, intellectual distortion may also be acceptable.

ETHICAL INADEQUACIES

It is obvious that the discovery and applications of new technologies change the ways in which we accomplish things. But universal human values remain amazingly constant. Thus, despite the pleas of scholars such as Hans Jonas (1982) or Duncan Langford (1999), who insist that recent technologies are so different in kind from their forebears that we require a new ethics to cope with them, we can continue to apply traditional ethical principles and considerations to contemporary situations and realize positive results. The problem is that ethical commitment is dependent on the participants' good will, and far too many of the people involved in the production, dissemination, storage, and retrieval of information are less interested in correct action (for its own sake or to bring about acceptable consequences) than they are in reward, profit, power, self-aggrandizement, or ego-enhancement. Ethical commitment and moral suasion are inadequate for the task at hand, and sole dependence on ethical strictures would result in ubiquitous anarchy. Correct, socially approved action derives from acculturating sensitization reinforced by parental, peer, and social pressure, and solidified by fear of the law's heavy hand. Here is the crux of the problem: ethical dilemmas are insoluble and ethical precepts and theory are of very little use when the participants are not committed to a mutually acceptable code. Ethical offenses, especially in an academic setting, do not carry fearsome penalties; indeed, they may bring forth no official sanctions at all. The impediments discussed throughout the course of this discussion are real and harmful. It should be possible to convince information producers, disseminators, and seekers to act ethically but, because the global community presents diverse viewpoints on correct ac-
tion and because many people care very little about ethical strictures, mere ethical concern cannot convince people to act correctly. Disapprobation, academic or professional sanctions, and fear of civil or criminal prosecution are much more persuasive guardians of acceptable action.

It is necessary to bear in mind that legal strictures are not necessarily pejorative. In an anarchic or purely libertarian society, law would play a minimal role, but the taboos, conventions, and legal constraints of social intercourse during 5,000 years of human history insist that mandated regulation is an integral part of the social enterprise. In the context of information provision, people may be confused because various venues produce disparate and sometimes contradictory laws. Countries, provinces, states, and even municipalities vary dramatically in the legal sanctions they impose. This is both unfair and confusing. Naturally, the unwary, the youthful, and the barbaric may take advantage of this situation. The production, creation, dissemination, archiving, and accessing of data and information is already controlled by law. People are not allowed to distort the truth or publish or sell material that does not belong to them. But electronic systems make it so easy to locate and manipulate data, information, and images or click and paste a document that property rights are no longer honored; plagiarism is endemic in academe; child pornography is a growing problem; privacy encroachments of one’s financial data or medical records threaten the very fabric of society; and hacking and cracking wreak havoc with personal, academic, corporate, governmental, and military Web pages. American privacy legislation provides an excellent example of how matters could be improved. Instead of a farrago of laws protecting various and disparate matters (video rentals, credit card numbers), Congress should consider an omnibus law that would protect the general privacy of the country’s citizens and its visitors. The limited interests of specific lobbies such as the business sector should not deter the imposition of legal constraints that most people would agree are necessary to protect us from those who profit from privacy encroachments.

Conclusion

The present author has long argued that information professionals (and this includes not only librarians and information brokers, but also extends to doctors, lawyers, and even teachers—i.e., those who analyze situations and tender advice) must increase their awareness of their respective situations, sensitize themselves to ethically acceptable ways of doing their jobs, and act accordingly. But twenty-five years of observation have led to the realistic conclusion that ethical commitment is not enough. The external pressures that society, peers, and need impose for success, remuneration, fame, and power make it very difficult for the weak to persevere. Consideration of others’ needs and feelings, protection of confidentiality, real informed consent, and truly judicious technological
implementations, are not top priorities in a world in which hatred, racism, crime, terrorism, and chemical, biological, or nuclear warfare are more than mere possibilities. For those who do care, ethical precepts and commitment can help to make the information world a better place; for those who accept or prefer mere convenience, fragmentation, threats, or cracking, ethics is of very little value. And this is the lamentable point at which the law must impose itself. If one’s conscience fails, fear often will provide guidance.

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Paradoxes of the Web: The Ethical Dimensions of Credibility

NICHOLAS C. BURBULES

ABSTRACT
This essay reviews the issues surrounding determinations of the credibility of online materials. The author argues, first, that the World Wide Web, and the larger Internet, comprise some very difficult and distinctive features that make conventional ways of assessing credibility adequate only within a fairly bounded frame; second, that beyond this bounded frame, standard credibility measures encounter some paradoxical and self-undermining consequences; third, that this picture is complicated further by the fact that "credibility" actually covers several very different sorts of factors, not all of them matters of judging truth and falsity per se; and therefore, fourth, that the assessment of credibility needs to address the social and normative factors that actually shape the character and quality of online information. These considerations combine to reveal an ethical dimension to many credibility assessments.

INTRODUCTION
One of the most-discussed topics about the World Wide Web is how users can be expected to assess the credibility of information they find there. This is not surprising since a key feature of new networked information and communication systems is that the sources of information found online are sometimes difficult to ascertain. The Web seems to offer a global reference resource but, because of its very scope, it seems to overwhelm the ordinary conventions by which people informally judge the merit of what they read or hear. Teaching users how to become more
critical and discerning is an important educational objective for learners of all ages (Bruce, 2000; Burbules & Callister, 2000).

Yet this goal is complicated by the fact that the Web is not an ordinary reference system; it poses some unique and, in many respects, unprecedented conditions that complicate the task of sorting out dependable from undependable information—and even complicates the notion that we have a clear sense of that distinction. How to differentiate credible from fraudulent information is not a new problem, but unraveling these in the context of a vast rapidly changing networked system is.

At a first level, the problems do not seem very different from more familiar text-based or oral contexts. Certainly we are making credibility judgments all the time: Is this person a reliable expert? Does this source have a bias or an axe to grind? Is this information outdated? Does this new information fit with what I already know about a topic? and so on. There are dozens of Web sites already devoted to assessing credibility, and they offer good sensible advice such as: Use the return address or URL to determine the source of the information. Check the "last updated" date to see if the information is current. Triangulate multiple sources of information before you believe something based on what just one source has told you. These are all well and good and, in a large number of cases, will suffice to sort out incorrect, misleading, incomplete, or deceptive information. For learners of a certain age, they are useful rules of thumb, and they are certainly better than nothing. But such standards fail as we consider issues of greater complexity and difficulty, and indeed at some point we realize that they lead us into a series of paradoxes that begin to shatter the notion of "credibility" itself. At that point we are thrown back to much more uncertain tentative methods by which to judge what we find on the Web. Yet this instability itself has something important to teach us about the nature of this new information and communication environment.

Three conditions make the Web, and the larger Internet in which it operates, a different and challenging credibility context. First, there is the problem of sheer volume. A Web search could pull up thousands, or even millions, of "hits" to which one might further add newsgroups, listservs, and e-mail as sources of information on a topic. The numbers are overwhelming. Now, of course, a library can be overwhelming too, as can dozens of news media sources (I write this in the midst of a close presidential campaign and, despite the importance of this subject, it is impossible to find clear unambiguous information on the status of the candidates—each poll gives conflicting numbers, every analysis argues that one or the other has an "edge" in the final election, every assessment of their proposals gives a different calculation of their fiscal costs and benefits, and so on). None of this seems very new. What is new is that the growth and decentered nature of the Web, and the larger Internet, has put the means of providing information in the hands of many more people.
Referencing and organizational systems that are available, for example, in libraries, do not exist here. The markers of institutional credibility and authority, the lines of tradition that allow viewers to judge media sources or publishers, for example, have not been settled yet. There is an even greater capacity to locate information that will tend to confirm one's existing views and prejudices rather than challenge them. In all this, the scope of the network and its deregulated content overwhelm the ordinary idea that we can comparatively judge different sources (which ones?), or that we can trust popular processes of selection to weed out the less credible and give status to the survivors.

Second, the Internet is, to a considerable degree, a self-sustaining reference system—i.e., when we do try to judge the credibility of an information source, we frequently must rely on other information gleaned within the network. We find an article written by an academic group and we go to their university Web site to find out more about them; we find a claim on one Web page and we do a keyword search to see if similar information can be found elsewhere; we receive a rumor via e-mail and forward it to friends and associates to ask if they know whether it has substance or not. Again, often this will help us out and, in any event, it is frequently our only choice. But this self-supporting structure is rather like the problem of dictionaries—i.e., we look up the meaning of one word, it gives us another; we look up the meaning of that word, it gives us another; we look up the meaning of that word, and it gives us the first word we started with. When a referencing system operates only internally and has no separate external reference, the very assistance we seek merely leads us in circles within the network. Sometimes credibility judgments online can be like this.

The Web is also a self-supporting reference system in another sense. Because the central feature of the Web is the HTML link, the structure of links by which we access a Web resource, and the links it contains, provides a major source for credibility judgments (Burbules, 1997). On the one hand, how we link to a page usually provides a primary criterion of whether we believe it or not—e.g., it was referred to us by a credible friend or colleague; it was linked to from an authoritative site; several other pages all point to this one reference; and so on. To compare this structure with footnotes (an imperfect comparison generally, but appropriate here): if we find a book or an article cited favorably by other sources we respect, it is more likely to be found important and credible. On the other hand, Web pages typically contain links themselves, and we often judge the credibility of a source by how reliable and complete its references seem to be to other sites. A site for news information that only includes links to other sites expressing a similar political point of view might be viewed as more credible (if one shares that political point of view) or less so (because it only presents one side of the issues). Here too the footnote comparison is fitting—if we know that there are important reference works in a field of
study, we judge new work by how well it anchors its claims to those standard reference points. Credibility here depends on the pathways through which we have accessed the information and the pathways to which it points.

The sort of structure described here is manifested, for example, in search engines that prioritize searches by ranking sites first that are most frequently linked to by other sites. It is manifested in commercial sites that tell, for example, book buyers that: “People who bought this book also bought . . . .” It is the core idea behind applications like VisIT, developed at the University of Illinois, which allows one to organize multiple Web sites via their interlinking network structure, ascertaining which seem to be more “central” to an information cluster and which more peripheral (http://visit1 vp.uiuc.edu/). This self-supporting nature creates valid opportunities to make some credibility judgments, but it also has the potential to lead those judgments astray, since the closed nature of this reference system may simply mean that we are buttressing one flimsy source by linking it to another one. Unless we have some independent basis for assessing the quality of those associations (whether through our preexisting knowledge of a subject area or through some external-to-the-system standard for judging them), we may be in the position of a blindfolded person being led by the hand by a group of others, all of whom are also blindfolded.

The third factor that makes the Web and the Internet so complicated and difficult from a credibility standpoint is the speed of its growth and the rate of dispersion with which information can circulate within it. Everyone who has spent time with this medium is familiar with the variety of hoaxes, rumors, urban legends, chain letters, and false virus reports that circulate rapidly, often forwarded by users (especially novice users) to their associates, thinking they are providing a useful service by spreading the information. As my colleague Chip Bruce, professor at the University of Illinois at Urbana-Champaign, states it, these become a kind of virus themselves, reproduced geometrically and with great speed. In general, the more important something appears to be, the faster it spreads. Yet when these turn out to be false, the mechanisms for retracting or correcting their misrepresentations can never proceed as quickly or as broadly as the original dispersion. In some cases, this capacity is being used for outright fraud, as in false stories about stock offerings that can often result in substantial short-term increases or decreases in their value; within a short time, even a few hours, such rumors might be detected and corrected, but the savvy crooks have already taken their profits and vanished.

And this introduces one of many paradoxes that impinge upon determinations of credibility online; often the most sophisticated and knowledgeable users are most likely to be taken in by such reports. Believing that they are getting “inside” information not available to the general public, such users are especially prone to being deceived by “obvious”
markers of credibility that—precisely because they are generally reliable indicators of credibility—are easily falsified by clever information-providers with an eye toward deception. A similar example involves falsified Web sites for political candidates, often complete with plausible URLs and apparent testimonials from reliable sources; the truly dangerous ones are not those with obviously satirical or impugning content—e.g., “How I Killed My Brother in Law,” “My Ten Steps for Conquering Canada.” A person with an eye toward real political damage would make the Web site scrupulously accurate, with actual speech transcripts, and so on, adding only a few subtle word changes, a doctored photo or two, a link to a bizarre fringe group, and so on. Disinformation like this actually uses your sophistication against you; the best judges of credibility are most likely to be fooled.

RECOGNIZING CREDIBLE SOURCES

How are we supposed to respond to this situation, and how can we help teach others to be more resistant to it? There are four elements typically discussed in the credibility literature; each has a surface plausibility and range of usefulness and yet each is ultimately inadequate, even self-defeating, as a criterion or procedure.

When examining the many Web sites dedicated to encouraging more critical or discerning consumption of Web information, they have almost identical content (and in many cases have clearly drawn from one another—an interesting credibility problem in itself). The first thing in judging the credibility of a Web site is to look for markers or “proxies” of credibility. These include observing the layout and visual quality of the site (if it is well-designed and carefully maintained, it is more likely to be from a serious source); reading the URL or return e-mail for content (is it from an academic or a commercial source, does the provider identify him or herself by name); does the information seem to come from an authoritative source or one with an obvious bias; does the date on the material show that it is “fresh” and frequently revised and updated; and so on. These indirect indicators have value but, as we have already seen, deceivers are as aware of them as consumers are, and each can be falsified not only with an eye toward casual deception but as a way of taking in people even more profoundly. Moreover, these criteria, though widely shared, are far from unambiguous. Is an academic (.edu, .ed, or .ac) URL marker a clear sign of credibility? Academics tend to think so, but many people view it differently, seeing academic status as a marker of irrelevance, abstraction, or arcana. There are also issues on which an academic identification might be viewed as a sign of special pleading by a self-interested constituency (e.g., tax policies) or of Left-wing partisanship. In other words, these criteria themselves rest upon additional judgments that are often tacit or unexamined, without which they may be extremely unreliable guides to judging information online. Yet the further one examines these
unquestioned assumptions, the more flimsy these criteria appear. Given the value that academic institutions place on the originality of ideas, there is a strong incentive for scholars to look for the unexamined angle of approach to a problem, the radical interpretation, the obscure detail elevated to a masterstroke of brilliant insight, the replicated study that disproves a long-established "fact," and so on. Certainly academic practices impose rigorous standards of scholarship, peer review, critical cross-testing by other scholars, and so on. Academic journals are one of the media that promote and protect such values. But there are simultaneous pressures toward novelty and academic status or visibility that also operate for many scholars, and which do not always promote participation in the critical spirit of inquiry that presumably guarantees the credibility of academic work. None of this is apparent to those outside the academic context, so when an article comes from "Dr. Smith from Recondite State University," its worth rests on an invisible set of norms and practices that even most academics tend to trust on faith; ordinary users don't even know that those practices exist, let alone how imperfect they can be.

A second set of responses, then, takes the opposite tack: be skeptical of everything found online; use multiple indicators of credibility, including those external to the source and not only those identified within it; triangulate specific claims by matching them with information available from independent sources (whether online or not); in general, do not believe anything that comes to you from only one source. Again, these are perfectly reliable rules of thumb. But they probably tend to exclude too much, and they require a degree of thoroughness that, realistically, few people will apply to every case. Determinations of credibility are not a perfectionist endeavor; they inevitably entail judgments about how much credibility one needs to support action or belief based on a particular claim, and this degree will generally vary depending on the seriousness of the consequences for that person of an error. But there are two kinds of error at work here (statistically termed Type I and Type II errors): the consequences of rejecting a true proposition can be just as devastating as the consequences of accepting a mistaken one—and nothing in lists of credibility criteria can help in balancing that determination. More stringent criteria may decrease the likelihood of making one kind of mistake at the cost of increasing the likelihood of making the other kind of mistake.

A third response, and probably one that most of us follow most often, knowingly or not, is simply to defer these judgments to others whom we entrust to make them on our behalf. Even search engines are making qualitative judgments about sources (different engines use different criteria), which are implicit in the rank ordering they establish when they post the results. Many users may not know that some search engines "sell" priority in their listings so that the criterion is based on commercial con-
cerns and not necessarily on the quality, reliability, or usefulness of the sites listed. Directories, whether partly automated or driven by human editors/archivists, often seek to establish "definitive" sites, selecting, evaluating, and organizing exemplary resources on some topic, and granting through this process a kind of derivative credibility (assuming, of course, that these editors/archivists are reliable judges of material themselves). I have already touched on the crucial role played by editors and publishers of journals, or other kinds of online publications, in screening and authorizing particular works as worthy of attention. All of these functions are perfectly recognizable to librarians, of course. It is far from an original insight to note that this whole process simply raises the question of credibility at a level once-removed. Yet it is important to emphasize here that it is often difficult, if not impossible, to identify who these intermediaries actually are: it is natural to want the primary material to stand for itself and, by disposition, people in these sorts of roles are not interested in interjecting themselves as the focal points of attention. But as I hope to have made clear, without doing so, users are deprived of information about a crucial element in the credibility chain. At the same time, and in a manner similar to my second case mentioned earlier, the more "meta" such reflections become, the more that judgments on the credibility of the intermediaries and facilitators of access to information displace judgments on the credibility of that information itself, the more time users spend away from the things that they actually want and need; many will decide that it is not worth the time or will use very broad imperfect standards (e.g., "refereed publication") to perform a kind of "information triage" for them—rapidly, crudely, but necessary given the volume of material to be worked through.

A fourth related approach—one distinctly suited to the Web—is the formation of communities ("rings") of like-minded people who share a common interest or concern. By linking their Web sites together and collectively screening the addition of new material, they pool their intelligence and expertise to make credibility judgments and to cross-check one another. This phenomenon is interesting both as an epistemic exercise and as an instantiation of social constructionism at work. However, obviously it is imperfect since shared wisdom can also mean shared misconceptions or biases. While less hierarchical and more democratic than relying on invisible editor/archivists to make judgments on one's behalf, this approach has the vices of its virtues. One might term this an instance of "distributed credibility" in that it displaces an individual judgment with a collective intelligence. It is, as I mentioned, particularly "Web-like" in its holistic approach to knowledge but also in its self-supporting and potentially self-reinforcing character. The greatest danger of such communities, as with communities generally, is that they can become exclusionary, hostile to unconventional, or radical challenges to their presumptions and
practices (Burbules, 2000). From a credibility standpoint, this means that serious questioning—the kind of questioning that can only come from one “outside” a given epistemic framework—is less likely to occur, and it is more likely that over time the shared preconceptions of such communities, even when they may have been originally valid, will eventually become credibility blinders.

What I have tried to show here is how the most common responses to credibility issues online, while valuable and reasonable within certain constraints, ultimately turn out to be paradoxical and self-defeating. This does not make them useless, but it suggests a limit to how clear and reliable such credibility judgments can be. At some juncture they encounter a point of diminishing returns or, as Tenner (1996) calls them, “revenge effects” that actually counteract one’s purposes (pp. 5-6).

**Defining Credibility**

This discussion is complicated still further by the fact that “credibility” means many different things, not only in the Web context but also generally. Normally it is taken as synonymous with “truth” or “believability” and is tied together with the epistemic problem of how information becomes knowledge. Certainly, the most striking examples of rumors and hoaxes online concern actual misinformation or disinformation intended to deceive others. But these concerns, important as they are, should not obscure other key dimensions that also impinge on judgments of “credibility.”

Such judgments also depend on assessments of what is useful, relevant, or interesting (and these are not all the same thing either). Given the volume of online information, a major decision to be made is simply what to pay attention to and on what basis. The initial selection and screening, which I would call “the judgment of credibility,” is typically based more on one’s interests and concerns and whether this new item even potentially qualifies as worthy of attention. Giving over one’s attention is what starts the process of epistemic evaluation, but this way of putting it suggests that these are entirely separate processes. In practice, we may have already made tacit preliminary judgments of truthfulness as soon as we say, “this may be useful, relevant, or interesting.” Conversely, it may partly be because we find something potentially useful, relevant, or interesting that we have an incentive to find it true.

When we look at the role of intermediaries in the credibility process, we need to scrutinize them not only for their qualifications and their criteria for making epistemic judgments on our behalf but also, crucially, their judgments about what is useful, relevant, or interesting. This latter role is often underestimated, as can be seen, for example, with the news media (whether online scribes like the Drudge Report, or CNN and the BBC). The decisions they make about what and how much to tell us about
certain stories are based only partly on the value of truth—e.g., operating with limited time and a need to grab and hold viewers' attention, sharp cuts are made in stories with an eye toward what viewers will find useful, relevant, or interesting. The New York Times slogan "All the News That's Fit to Print" becomes "All the News That Fits," often in a few-second sound bite. So here again the different dimensions of credibility cannot be divorced from one another. This becomes even more true when we reflect on the feedback effects of such decisions by the media (whether online or not)—i.e., their judgments about what people will find useful, relevant, or interesting often shape, at least in part, what people actually do come to find useful, relevant, or interesting. This self-fulfilling influence makes it not only a consumer-driven determination but a consumer-shaping determination. And when these media are seen in the context of their increasingly intrusive commercial interests, this process can hardly fail to be viewed skeptically.

Another dimension of credibility is timeliness. This is not only important in the ordinary sense that much information becomes obsolete or inaccurate with the passage of time, it is also because the Web is such a rapidly changing environment that material which does not appear to be continually revised and checked becomes suspect for no other reason than that the environment around it has been changing. Hence, many users expect a degree of ongoing novelty and innovation even just at the level of design or mode of representation, as an indication marker that the providers of information have been scrutinizing their content with a "freshness date" in mind. This is hardly a new idea. In the novel The Leopard, Giuseppe di Lampedusa (1961) writes:

> a fact has scarcely happened five minutes before its genuine kernel has vanished, been camouflaged, embellished, disfigured, annihilated by imagination and self-interest; shame, fear, generosity, malice, opportunism, charity, all the passions, good as well as evil, fling themselves on the fact and tear it to pieces; very soon it has vanished altogether. (p. 219)

Another dimension of credibility is comprehensiveness. The very volume and diversity of the Internet creates a peculiar credibility dilemma. One might term this Meno's Paradox in reverse: How do you know what's not there when you do not know what it is? The global scope of the Web can create the illusion that whatever cannot be found must not be very important. Yet even if everything one did find were important and true, it would be a significant failing from the standpoint of credibility if other information, representing contrasting or conflicting points of view, was not also available. In part this is because, as noted earlier, having contrasting or conflicting points of view is sometimes the only check on a kind of self-confirming "obviousness" that beliefs can settle into, but it is also because many of the intermediaries, as we have seen, play their primary role through
selectiveness, a role we implicitly authorize for them. We want others to make decisions about priority and relevance; we don't want the "full story" (whatever that means) in most cases. It would be tedious and distracting otherwise. But as soon as such selections are made—by others or by ourselves—the danger increases that something crucial has been overlooked. And without substantial independent knowledge of a subject area, it is impossible to find out, even with hindsight, what has been overlooked. The fact that such selections are absolutely necessary in the Web context only heightens the paradox: the selectivity we require for making certain kinds of credibility judgments conflicts with the comprehensiveness we require as a condition of other credibility judgments.

Finally, these considerations lead to another paradox of credibility, since sometimes too much comprehensiveness can itself be counterproductive to judgments of credibility. Credibility, as noted earlier, involves judgments about worth and not just about truth per se. David Shenk (1997) argues that an excess of online information tends to produce a "leveling" effect in which everything is viewed as equally plausible or implausible—i.e., for any point of view you can find a reasonably well-argued alternative view. How does one decide then which perspective to valorize? When reasonable arguments seem to pull in any one of several directions, does it matter which one we choose? This judgment typically will rely on value considerations beyond the force of argument itself; credibility is not a purely epistemological assessment.

**CONCLUSION**

What this discussion has tried to show is that the standard criteria for judging credibility online are frustrated by the characteristic conditions of the World Wide Web and of the larger Internet. None of these elements is entirely unique to the online context, but the scope, self-referencing character, and rate of change of this medium raise these issues to a new importance. The Web is both an information archive and a social network; as people move within this space, their interaction with ideas and information is, at the same time, an interaction with other individuals or groups (even though the implications of such social dynamics for what is and isn't found online are not always made apparent). The analysis here has tried to make such implications more apparent. Moreover, credibility is not just one thing, and judgments about it inevitably bring in considerations that are not purely matters of assessing knowledge claims. At this point credibility can be seen to take on an ethical dimension.

The idea of distributed credibility suggests that the reliability of judgments about the truth of information—and even more so judgments about usefulness, relevance, interest, or worth—cannot be assessed outside the nature of the online communities of which one is (overtly or tacitly) a part, nor of the communities producing and legitimizing the information.
found online. These collective sentiments, with all their wisdom and insight, all their biases and exclusions, shape the content of information, shape the standards by which it is judged, and shape the negative spaces, the absences, of what is not to be found there. These social judgments and processes are structured by values of collectivity, reciprocal obligation, inclusiveness or exclusiveness, and so on—moral values, not primarily epistemic ones. Hence judging information is always partly judging other values with which one is choosing to identify or to challenge. A key element in these judgments, I have suggested, is the permeability of such communities to questions or challenges from alternative points of view; some, like gated communities in our physical neighborhoods, define themselves centrally by what they exclude; others, like communities of open debate and free inquiry, invite and even seek out alternative perspectives because they believe that this is how knowledge is best formed and tested—but also, and inseparably from this belief, because this is how they choose to shape the world in which they live. That is a moral stance as well.

On the issue of what I described as Type I and Type II errors, no epistemic criteria are going to inform the decision about whether it is better to run the risk of mistakenly accepting a false proposition or mistakenly rejecting a true one. Such a judgment cannot be made once and for all time; the importance of the problem, the consequences of error, and upon whom those consequences may fall, all impinge on the way this choice will be decided in particular cases. Determinations of risk, in such instances, clearly raise moral questions, and it is crucial to see that, whether decided overtly or taken for granted, judgments of this sort implicate the process of inquiry in a process of social responsibility.

On the issue of how “meta” our reflections on online information should be—that is, how deeply to investigate the sources of information, their qualifications, their procedures of testing and confirmation for what they put out as fact—the ideal of perfectionism in such matters runs up against realities of limited time and limited available information. At some point we need to move back down from the meta level and get the information we were originally looking for. This means that, at some point, judgments rely on attributions of trust—trust in individuals, trust in communities and collective (if largely invisible) processes of vetting information. Here again we encounter moral elements: fostering such relations creates, in networked environments especially, fibers of affiliation that strengthen and reinforce one another. For example, if one visits a Web site frequently for information because one judges it to be reliable, one contributes to granting it a higher priority when search engines rank it for the searches of others—they are bound up with one’s own choices, whether they choose to be or not, and their participation with these sites, in turn, reinforces the reputation of credibility that the site acquires. This may not have been one’s intention, but the unspoken, and unquestioned,
attributions of trust that are implicit in these networked dynamics introduce a problem that demands moral reflection.

On the issue of "information triage," the notion of epistemic perfectionism takes an even stronger hit: credibility models that are based on the ideal of scrupulous testing and comparison fall up against practices of inquiry that, for most users most of the time, simply do not work that way and cannot. The need for selectivity, and the general expectation of speed and efficiency in online searches, dictate that users either make fairly rapid choices or leave those determinations up to others. The criteria by which such accommodations get made involve all kinds of assumptions, preferences, and blind spots—but any alternative set of criteria would also involve assumptions, preferences, and blind spots, simply different ones. Deciding how much time to spend on credibility testing, then, is not itself a credibility issue but a matter of values and priorities that bring in other considerations (for example, I am typing the first draft of this paper with my infant son asleep on the couch next to me; even as I make revisions and try to improve the paper's arguments, its credibility, it will always bear the marks of having been written with one ear perked, listening for his movement or discomfort—the same would be true if I were searching for information online).

On the issue of timeliness and the erosion of "facts," I recommend an exercise for you, which comes from Bob Panoff of the Shodor Education Foundation: search the Web for the boiling point of radium. You will find dramatically different figures, all from sites that appear legitimate and credible (the first four I found had four different temperatures). Since there is no way (I assume) for you to ascertain the fact of the matter for yourself, how will you decide which site to believe? If this is true for something that is assumed to be (a) an objective and scientific fact and (b) constant, since whatever the boiling point is presumably isn't going to change, how much more difficult will it be for other sorts of "facts" to be verified? For information with a stronger social or political dimension, it is clear that variations in empirical claims will be inevitably wrapped up with social or political values or assumptions, and where these claims conflict, as they inevitably will in a vast, networked, information environment, how could normative values and commitments not be a factor in deciding what/who will be believed?

Finally, on the issue of what Shenk (1997) calls the leveling effect of too much and too eclectic a pool of information, the greatest danger, as noted, is that one will simply choose to accept information that plausibly confirms one's prior beliefs or what one wishes were true. None of us can be entirely immune to this weakness but, to the extent that credibility judgments are recognized as having an ethical element, the consequences of doing so, for ourselves and for others, can at least be brought to the surface.
And that, in the end, is what I am arguing for here. The notions that credibility judgments can be made on objective criteria, that they only involve considerations impinging on the truth or falsity of information, and that one should always exercise such judgments as scrupulously as possible, all neglect the underlying characteristic of the networked environment in which these judgments are being made, namely, that it comprises—constitutes, even—communities of obligation and commitment. The social dimensions of this network always entail elements of judgment and value. In the end, the best safeguard is to check one’s judgments against the judgments of a community with which one has confidence; choosing that reference group prudently is as much a moral matter, involving issues of respect and trust, as a matter of expertise.

As noted throughout this discussion, these ethical elements, along with the fundamentally complex and conflicted nature of what judgments about “credibility” actually involve, combine to make such judgments far more indeterminate and provisional than they are normally taken to be. In a context where epistemic perfectionism must take its place alongside many other values that frequently override it, credibility, in the sense it is often meant, often may not be able to be independently established at all.

References
Revolution and the Library

KRYSTYNA GÓRNIAK-KOCIKOWSKA

ABSTRACT
The focus of this article is primarily on the impact that the computer revolution has on college/university libraries, although many of the issues discussed here are relevant to other types of libraries as well. The university library in its present form is a product of the printing press revolution. In all likelihood, the computer revolution will have an even more profound impact on the library than did the printing press revolution.

"The library is, and always has been, the heart of a college," wrote Gertrude Himmelfarb (1999). The "always" here probably means "ever since the emergence of modern universities" rather than "always" in an absolute sense. Himmelfarb noticed that it was Gutenberg's invention of the printing press that allowed libraries to attain a prominent role in education, scholarship, and in public life in general. The libraries of medieval universities played a different role than college libraries in modern times. In the medieval university, study centered mainly on lectures and disputes and access to the library's manuscripts was rather difficult for students; professors too could not always freely use the library, especially at times of religious tensions when certain books were forbidden to readers who could not demonstrate religious and intellectual worthiness of being trusted with texts capable of poisoning the reader's mind with wrong ideas. This, together with the great material value of books (an illuminated manuscript could buy as much as a yoke of oxen and sometimes a whole farm) made a medieval library similar to a treasure house, and books similar to
treasures—i.e., highly priced, rare, desired, and used only on special festive occasions. The libraries in medieval Europe belonged mostly to universities or cathedrals. They rarely contained more than 1,000 manuscripts. In contrast, some of the famous Arab libraries of this time had collections of tens of thousands of books or more. For example, the collection of books in the library of Cordoba grew to more than 400,000 titles during the reign of the Umayyad dynasty (it ruled Andalusia starting in 932). At that time, according to James Burke (1995), there were not that many books in the whole of France. As Himmelfarb (1999) points out, when the Vatican Library was established (quite late, in 1450), it had at that time only about 2,500 volumes.

As is well known, the invention of the printing press made the production of books much cheaper and easier, although as Robert Escarpit (1966) points out, the number of printing presses and the size of printings were restricted by guild ordinances (p. 21). Books became more available, and the literacy rate rose because the usefulness of the knowledge of reading and writing grew rapidly. The collections of books grew, too.

While the number of individuals who were able to read and write grew significantly during the centuries following the invention of the printing press, the time needed for the popularization of texts grew shorter. Dante’s *Divine Comedy* needed 400 years to become known throughout Europe, Cervantes’ *Don Quixote* needed twenty years for the same, and *The Sorrows of Werther* by Goethe, a 1774 novel that became immensely popular all over Europe, needed only five years (see Escarpit, 1966, p. 22).

As the dissemination of texts greatly widened, the clergy’s control over people’s thoughts became more and more tenuous. The situation of an author changed too. His (or her) words reached a much wider audience than when he lectured or produced manuscripts. As Escarpit (1966) says, writing enabled the author to speak to posterity, “to conquer time,” and books (especially printed books) made it possible to spread the written word throughout the world, thus enabling the author “to conquer space” (p. 18). However, the author of a printed text had no extratextual influence upon the reception of his work, unlike the teacher in the classroom with his greater interpretive control over his students’ thought. This new situation required, among other things, a different approach to language. Two basic functions of language were especially important: it had to capture the reader’s attention and make him/her interested in the text, but it also had to make the reader understand the author’s thoughts in the way the author wanted them to be understood. This required the authors of scholarly texts to have special skills and intellectual discipline, and it required the authors of fiction to have richness of language and power of imagination. All this contributed to the development of national languages. Latin became more and more inadequate to express the new ideas and to describe the changing world for which the dead language did
not have proper words. In addition, books containing practical knowledge, useful in everyday life, could not be read by people who did not spend years learning Latin first.

Since the author is usually absent during the reading of a text, the reader has to rely on his/her own mind alone. The reader cannot be completely certain if he/she understands the author correctly. This could be, and it often was, a source of frustration, but it trained the reader's mind, made the reader accustomed to independent thinking, and gave birth to many new ideas that would not have occurred if the reader's thoughts were controlled by the author of the original text. Of course, the invention of the printing press strengthened this trend significantly.

Printed texts also made it possible to acquire knowledge individually (i.e., not through oral public presentation) and freely (i.e., without control of either the individual tutor or the owner of the collection of manuscripts). One of the results of this situation was the loss of belief that knowledge means possession of a mystery, a secret wisdom, inaccessible to outsiders. Knowledge became an instrument which everyone could and should use. Faith in the power and in the universal character of the individual human mind was born and with it a new concept of the human being. The masses of believers who used to obey the possessors of knowledge discovered that they were rational individuals capable of making their own judgments and decisions. The number of possessors of knowledge greatly increased with the advent of printed texts. A new faith arose: the faith that each human being could possess knowledge and could do so by studying books and using his own reason.

All these new phenomena contributed to the decline of the university in its medieval form. The old universities did not offer what the public wanted anymore. Typically, universities did not want to or were unable to change, and they gradually became places of conservative views and second-rate scholars, whereas many of the great ideas of that epoch were produced either by private scholars or by court men in the service of royalties and wealthy aristocrats.

The sixteenth and seventeenth centuries in particular were the time of a battle between the old and the new at European universities. New colleges and professorships were founded by members of royal and aristocratic families (several of these founders were women), notably at Oxford and Cambridge, and in places with strong Protestant movements. Their task was to support the scholarship that would promote ideas dear to the founders' hearts. These ideas too were often new, controversial, and untested. To pursue them required an open mind, courage, and a certain disrespect for tradition.

When Martin Luther enrolled at the University of Wittenberg in 1508, the school was only six years old. It had faculty members, many of whom were not very experienced; it did not have a tradition to cherish; it was a
place where trial and error were still allowed. These were the conditions which allowed (or forced) the intelligent and knowledge-thirsty student to be quite independent and self-reliant. Often he was either encouraged by his relatively young, inexperienced, enthusiastic, and rebellious professor to be this way, or he had to rely on himself because the professor did not deliver what the student was searching for. Had he accepted fully the great and unquestionable authority of his professor, the student would have been much less independent minded.

The very concept of education became a subject of learned disputes, with the pioneering work of the Moravian Johann Amos Comenius (1592-1670) paving the road for the modern theory of education. The Roman Catholic Church responded to these new trends with its own reform of an educational system entrusted primarily to the newly founded Jesuit order. However, the majority of universities still followed the old system, old hierarchy, and old ideas. The language of scholarship and instruction was, for the most part, still Latin. René Descartes (who did not hold a university position), commonly regarded as the thinker with whom the modern era in philosophy began, wrote his famous groundbreaking *Meditations*, first published in 1641 in Latin. There he explained in the “Preface to the Reader” that although he published his earlier work, the 1637 *Discourse on the Method of Rightly Conducting the Reason and Searching for Truth in the Sciences*, in French, he decided to write the *Meditations* in Latin because he did not want the book to be accessible to everyone, he did not want his book to be “read indiscriminately by all sorts of people, lest weaker minds be in a position to believe that they too are to set out on this path” (p. 5).

The insistence on Latin as the language of true scholars was very persistent, especially at universities. As late as 1770, Immanuel Kant presented in Latin his dissertation that was the formal basis on which he received a professorship at the University of Königsberg, although his doctoral dissertation (published in 1747 and defended in 1755) as well as all his famous late works were written in German. As a professor of philosophy in the East Prussian city of Königsberg, Kant not only accomplished what he called “the Copernican turn in philosophy,” but he also joined the, by then already very vivid, public discussion on the idea of a university and on the concept of education in general by proposing his own vision of what a modern university should be.

Indeed, the eighteenth century was a time of new ideas concerning all aspects of life, including scholarship and education. This happened in great part because of the freedom of thought and the freedom of expression that were exercised by private citizens outside the constraints of traditional universities. Thanks to printed books, newsletters, and letters (eighteenth century, the epistolary century), thoughts and ideas could travel in space and time, stimulating minds. Other breeding grounds for new ideas were learned societies in various forms. For the first time, women too
participated in a visible and significant manner in this exchange in writing as well as in person in the famous salons of that era.

The nineteenth century became the time of attempts to bring these ideas to life, and often to do so by force. In the political and social sphere, the nineteenth century brought to power new forms of government and a new social class, the middle class. The industrial revolution, which was largely possible thanks to the improved production of large quantities of iron (and later steel), created not only factory workers and a new type of army; within the first two decades of the nineteenth century it also brought a new important change in the production of books. As Escarpit (1966) writes, the metal press followed by the foot-operated cylinder press, followed by the mechanical steam press initiated the period of mass printings (p. 23). (“By mid-century Uncle Tom’s Cabin sold a million and a half copies in one year” [Escarpit, 1966, p. 24] throughout the English-speaking world.) There was need for a new effective system of research and education. Serious attention was paid to the ideas of the renewal of the university, which was reorganized accordingly. It now responded better to the new needs of the “real world” but also to the needs and abilities of the new kinds of students and professors, who were mostly individuals relying on the power of their own minds. “Sapere aude” (dare to be wise), the famous words by Horace, made into a motto of the Enlightenment by Kant in his 1784 essay What is Enlightenment? became a rule for scholars and students alike. They wanted to explore the physical reality and the world of ideas; for that they needed a laboratory and a library. Accordingly, the university was divided into two basic units: science and engineering on the one side, arts and letters (humanities) on the other. The heart of the former was the laboratory, the heart of the latter was the library. Since then, as Gertrude Himmelfarb (1999) wrote, “professors of the humanities . . . as much as students are the creatures of the library” (p. 613).

The modern university/college library (and many school libraries and public libraries) used to have two crucial functions: (1) it was supposed to serve faculty and students by providing texts and space to work comfortably with those texts, and (2) it guided faculty and students in their research and study. It did so through the selection of texts to be included in the library’s collection. This kind of content control (a term borrowed from F. W. Lancaster) was a function of the division of labor within the humanities in the modern university. It was different (it was supposed to be different) from the medieval censorship of the content of books. The librarian in a modern university was expected to be a highly qualified, competent, well-read person, who was able to make a judgment about what books would be most useful, most inspiring, most valuable for faculty and students. In the words of F. W. Lancaster (1999), the librarians were “people capable of separating the wheat from the chaff” (p. 807). Of course, the
selection of books for the library was also a matter of resource allocation. However, even libraries with a great amount of money to spend did not buy books indiscriminately. The ambition was not as much to have a complete collection as to assist in research and study by providing resources whose quality could be trusted.

The central role of the library in the humanities division of the university is, in fact, the result of the printing press revolution. The distance in time between Gutenberg's invention in the fifteenth century and the proliferation of the modern type of university in the nineteenth century, and the many dramatic events that took place in the meantime do not always allow us to see this link at first glance. Nevertheless, it is of utmost importance to recognize it, because history teaches a very important lesson here. Yes, libraries existed almost since the time writing was invented (apparently, there were libraries in Egypt already about 2500 BCE), and yes, the copyists' workshops of Rome in the classical period were mandated to deposit copies of texts in libraries (Escarpit, 1966, p. 19), but the university library is no older than the university itself, and the first European university in Bologna, Italy, was founded in 1119. Within the university, in turn, the function and the importance of the library too changed with time, most notably thanks to the printing press revolution. Knowing all that, it is very important (at least to those in whose life a library plays a meaningful role) to ask how the present revolution, the computer revolution, will change the library, especially the library this article focuses on, namely the university library. That the change will occur is beyond the point of dispute; the changes that have taken place so far are already drastic enough.

A few years ago, there still were voices heard of skeptics who did not think of the computer as a revolutionary machine. Today, the phrase “computer revolution” is used almost as a matter of routine. As Gertrude Himmelfarb (1999) puts it, even some of the most skeptical historians, those who reserve the term “revolution” for just a few events in history, are now willing to accept the occurrence of a new revolution: the “electronic revolution,” as she calls it.

And still the term “revolution” often seems not to be taken seriously when applied to computer technology. Sometimes it is countered with “the more things change, the more they remain the same.” Oftentimes it is used frivolously. Or, by saying “computer revolution,” people perform a rather meaningless ritual, not paying much attention to it at all. On other occasions, the term is used as a magic spell to keep all troubles at bay. Yet “revolution” means a truly profound and far-reaching change, not just “the next revolution in skin care.” For something to be a revolution, it needs to affect all aspects of people’s lives all over the world—and this is not just a phrase. Such was the printing press revolution. In the area of culture, it assured, among others, the long lasting prominence of a few
languages on a global scale; for an author, it was better (and still is today) to write in one of these languages because the reading audience was potentially much larger. Due to the necessity of translations, small nations started to face a double problem: more difficult and more costly efforts in promoting their cultures internationally, and also more difficult and more costly efforts to keep up with the achievements of the dominating cultures. Moreover, the printing press revolution created a division of nations into those with and without a modern written tradition. Repercussions of this division are still felt acutely today, for example, in places like some of the former Soviet republics, now independent states. Such countries did not develop their own national modern forms of written tradition before they were incorporated into the Soviet Union. In the Soviet Union, the Russian language and culture dominated and suppressed their own language and culture. Now these nations struggle to create an adequate scientific vocabulary in their own languages, and the literary works of their own writers often have to be translated from Russian into the national language. These nations must go today, to a significant degree, through the process that other nations went through in the sixteenth, seventeenth, and eighteenth centuries. In this sense, the printing press revolution is only now coming to its completion. It has a truly global impact now.

The computer revolution too has a global character, which is easier to see than in the case of the printing press revolution because things happen so much faster now. Today, computer technology affects the lives of people worldwide, even people who hardly know what a computer is, not to say anything about using one. For example, in the hunt for new domain names, some private companies offer money to underdeveloped countries for the right to use the country’s Internet domain as the company’s domain name. This way, ironically, a poor country can profit from computer technology by not using it.

There is one more issue regarding the printing press revolution and the computer revolution that needs to be addressed here. Writing about the present changes in libraries, Gertrude Himmelfarb (1999) notices: “The real revolution started even before the electronic one, and it started not with a technological revolution but with an intellectual one. It began a few decades ago with the attack on the ‘canon’—the great books that have traditionally been thought to constitute the heart of the humanities and the core of a liberal education” (p. 615). As in every revolution, here too it is hard to draw a clear dividing line between various aspects of the revolutionary process. Usually, new ideas and new inventions stimulate one another in a snowballing process that ends up in an avalanche known as revolution.

What Himmelfarb noticed about the relationship between the post World War II intellectual revolution and the computer revolution had its equivalent in the Middle Ages. In both cases it is true that the ideas which
became truly powerful after a revolutionary technological invention were already “making waves” before the invention revolutionized culture. The problem is that the ideas became so powerful and popular thanks to the revolutionary technology. This happened in the second half of the twentieth century to the concept of education, especially in the area of humanities, and this happened also during the Middle Ages with the interpretation of Christian dogma.

Although religion seemed to be the major motivating force in human actions during the medieval period, the diverse forms of people’s activities resulted, nevertheless, in the development of science and technology. This led to the growing affluence of some sectors of the population, notably the burgers of certain conveniently located cities. In turn, the new financial prosperity created tensions between the successful merchants and artisans and the Church which was protecting the officially sanctioned interpretation of Christian doctrine. The moral teaching of the medieval church in Western Europe had special contempt for two vices: pride (of noblemen) and avarice (of merchants). Alan Friedlander (2000) explains the popularity of some Christian heresies, like Catharism in the South of France, among the members of the middle class as the result of the consolation offered by heretical teachings to souls tormented by the problem of earthly possessions. “Inasmuch as they [the Cathars] considered all the things of Creation the product of evil, they condemned the pursuit of money no more vigorously than any other worldly activity” (p. 48).

However, as genuine and locally powerful as they were, the heresies of medieval Europe remained nevertheless local phenomena. The invention of the printing press changed the situation quite dramatically. It helped the local heretic, Martin Luther, to disseminate his teachings well beyond Saxony at an amazing speed. Luther finished the translation of the New Testament into German in 1522; the Wittenberg printer Hans Luft produced 100,000 copies of the book over the next forty years (Grun, 1982, p. 232). In other words, the printing press brought not only a quantitative change but a qualitative change as well. In printed form, the ideas could not only travel quicker, and reach more people than was possible before Gutenberg’s invention, they also had a deeper, more powerful impact.

Similarly, the computer revolution makes it infinitely easier for those who want to avoid the literary “canon” to do so. Before the PC and later computer networks became commonplace in academia, the intellectual revolution mentioned by Himmelfarb was, despite modern mass media coverage, still a relatively restricted phenomenon. It had impact (sometimes very strong) on some universities, including university libraries, but many schools were able to isolate themselves from the new ideas. With computer networks in place, with long-distance learning, and with rapidly growing possibilities to access library collections all over the world; such an isolation is not an option anymore.
The invention of the printing press made it possible, among other things, to liberate the student from the direct supervision of the teacher. The computer network liberates the student from any intellectual restrictions of the college(s) he attends, and the restrictions of the library. This is as difficult and, for many colleges, as painful a situation as it was for medieval universities when facing the impact that printed books had on their students.

One of the features of revolution, any revolution, is that it is merciless to its opponents, and at best it ignores bystanders, providing that the bystanders get out of the way. Such was the power of the printing press revolution and its extension, the industrial revolution of the eighteenth and nineteenth centuries. Such is the power of the computer revolution. These are the technology driven revolutions (and they are, of course, tightly connected with political and social revolutions), and one can see in them the power of technology itself, as Michael Heim (1993), the author of *Metaphysics of Virtual Reality*, does:

> The danger of technology lies in the transformation of the human being, by which human actions and aspirations are fundamentally distorted. Not that machines can run amok, or even that we might misunderstand ourselves through a faulty comparison with machines. Instead, technology enters the inmost recesses of human existence, transforming the way we know and think and will. Technology is, in essence, a mode of human existence, and we could not appreciate its mental infiltration until the computer became a major cultural phenomenon. (p. 61)

The world in which the computer revolution has taken place will not be the same. This does not mean that everything will change at once. Nevertheless, knowledge of the nature of the phenomenon of revolution shows that, once a process has been identified as truly revolutionary, rational agents, including individuals who do not *make* the revolution but are "swept along" by it and have to cope with the changes it brings to their lives, should be expected to, first, accept the inevitability of change and, second, to attempt the most correct assessment possible of the true character of these changes. The third step would be prediction of further developments. All three steps can pose for rational agents significant difficulties of various kinds—i.e., psychological, cultural, cognitive, and so on.

Naturally, revolutionary changes will be embraced by those individuals who regard these changes as positive, and who feel comfortable in the new situation created by the revolution. On the other hand, the acceptance of the inevitability of change can be very difficult for those who are comfortable with the hitherto existing state of affairs. One should mention that resistance of a rational agent to the acknowledgment of an undesirable situation can take several forms. Two of them are the most common. One can follow the pattern described by William James in *The Will to
Believing—i.e., one can accept as true a premise one wants to believe to be true and then create a valid argument with a conclusion following from this premise (for example, I believe “The more things change, the more they remain the same” is true, therefore in the end things will be as they used to be; there is no need to think that the computer revolution will cause any profound alteration of my profession, my lifestyle, and so on). Another way a rational agent could choose if he/she is not ready to accept the inevitability of change would be to make use of a feature of reason that Hegel pointed to. Hegel, not unlike the Sophists, claimed that reason is “cunning”; it can find ways to justify one’s favored position. In this case, one can create an argument for the possibility (or even for the necessity) of sustaining that part of the existing status quo despite all the revolutionary changes, or at least for the sustenance of the part of the existing status quo which is dearest to the creator of the argument. It is harder to create a cogent argument here because the revolutionary process often does not leave enough time for collection and analysis of empirical data prior to the moment of necessary decision. However, the inaccessibility of empirical data can also serve as an argument weakening the anticipation of unavoidable change.

To sum up this part, profound radical changes, the heart of revolution, have supporters as well as opponents. One should note that the opponents of revolutionary changes are very likely to deny the inevitability of these changes and can create valid (if not sound) arguments to support the view they defend.

The second task a rational agent faces during a revolution, after recognizing the character of the relevant changes, is to assess the true nature of these changes. Here the proponents and opponents of the revolution have an equally difficult problem to solve. In fact, they can benefit mutually or even collaborate on this issue despite the fact that their ultimate goals are opposite. A thorough analysis of the revolutionary process can be useful for the supporters and for the opponents of this process, no matter what the ideological position of the researcher. The works of Alexis de Tocqueville and Karl Marx provide a case in point.

The third step, prediction, is by its very nature the most difficult and least reliable. In addition, the more errors there are in the first two steps, the more incorrect the predictions are likely to be.

Thinking about the future of college libraries, one needs to follow the three steps mentioned earlier: recognition of revolution, assessment of the nature of change, and the projection of future development. One needs also to avoid the traps in steps one and two in order to attain a possibly realistic projection in step three.

A revolution is a dynamic process, and the computer revolution is a process far from its completion. Nobody can tell today what the world will be like after the computer revolution; nobody can tell when this revolution
will be over. It even seems possible that what Ernesto ("Che") Guevara wanted a political and social revolution to be—namely a permanent revolution, a never ending revolution—is what the computer revolution will turn out to be. And there are phases in every revolution. When the revolutionary process is completed, the phases may be distinguished differently from the way they were perceived during the revolution. Within the process itself, certain issues have their own dynamics, their own momentum.

The history of the computer revolution is still very short; nevertheless, there is already a history of that phenomenon.

As is well known, computers were initially thought of as "number crunchers," as purely mathematical machines that were supposed to serve people in the areas where time consuming and highly elaborate calculations were needed. Word processing and some other not strictly mathematical features of computers were regarded initially as relatively insignificant byproducts of the "real" functions computers were supposed to fulfill; they were not much thought of by computer enthusiasts in the earlier days of the computer revolution. This view was challenged, among others, by James Moor (1985) who asked the question of how revolutionary a machine the computer is. Moor claimed that it is logical malleability that makes the computer a truly revolutionary machine. He challenged the "popular conception of computers in which computers are understood as number crunchers—i.e., essentially as numerical devices" (p. 269). He wrote further:

The arithmetic interpretation is certainly a correct one, but it is only one among many interpretations. Logical malleability has both a syntactic and a semantic dimension. . . . Computers manipulate symbols but they don't care what the symbols represent. Thus, there is no ontological basis for giving preference to numerical applications over non-numerical applications. (p. 270)

Obviously, Moor was right, and today word processing and non-numerical computer applications are almost overshadowing the numerical ones, at least in the minds of the general public. But in the early days of the computer revolution, the general perception of the kinds of applications a computer performed was different. The word processor was regarded (then probably rightly so) as not much more than an improved electric typewriter, a standard tool of almost every scholar. This, by the way, was quite similar to the initial treatment of print. The early printed books, incunabula, resembled medieval manuscripts—it took time to develop a new form of a book, more suitable to the new technology. And when it comes to visual artistry and colors, only twentieth century books can really rival medieval manuscripts, but they no longer belong in the same league with these manuscripts.

Considering the above, it is only natural that at universities computers were first introduced in science laboratories, and the humanities
seemed not to be in "danger" of any significant computer "invasion." The same, of course, was true about the university library. As often happens, schools that were not very prestigious, especially the relatively new, less tradition-bound, liberal arts colleges were more ready to experiment with the new idea of using computers in their libraries than were the well established schools. In the late 1980s, when many college libraries computerized their catalogs, Harvard University still hesitated. Considering the capacity of its collection, the cost of re-cataloging was obviously very high, hence the resistance to take the risk if computers would prove to be an ephemeral occurrence. It was better to wait and see how others fared. It is also quite possible that the library was liked very much the way it was, and changes were not really wanted or needed. In any case, the situation then was comparable to the time after the invention of the printing press when new schools that had little to lose and much to gain were more open to new ideas than were the prestigious well established ones.

Things changed quickly, however, and presently one can hardly find a college library in the United States without a computerized catalog, connected to the network of other libraries, offering various sophisticated services computer technology makes possible, and so on. It is enough to leaf through several issues of journals like *Library Trends* to see how much the problems that occupy library professionals today differ from those of several decades ago.

Computers invaded the world of academia, whether they were invited enthusiastically or with resistance and sometimes even with fear. Again, the difference between the "sciences" and the "humanities" was clear; in the sciences, it was obvious that computers were to be embraced as good and as the way leading into the future. In the humanities division of the university, with its "heart" being the library, the feelings were mixed at best. Here, the above described (often negative) reactions to revolutionary change could be seen quite easily. Actually, in the early days of the computer revolution, when it was not yet clear how aggressive the new technology would be, the on-campus division between the sciences and humanities even deepened in the sense that individuals who tried to avoid dealing with computers were more likely to choose humanities in the hope of finding a safe haven there. Also, like attempts to resist life-changing inventions in the past, studies were conducted and theories presented which were showing the harm that computer technology will do. Marshall McLuhan became popular again, and Neil Postman’s criticism of a culture dominated by technology met with widespread applause. Like Plato’s contempt of the invention of writing, expressed in *Phaedrus* in the story of Thamus, we, too, often seem to be full of contempt when we think about the possibility of replacing books, or maybe even of replacing writing at all with another form of storage of information and another form of communication. And, of course, we are right if we value highly what the
world of printed books has to offer because we do not know whether we will like the new world formed by computer technology.

Changes take place on college campuses, in libraries as well as in classrooms. Many colleges and universities, with maybe the exception of the highest ranked elite schools, notice a significant change in the student population. The student population is not only more diverse in terms of race, ethnicity, and age but also often has a different attitude to the study process and to a college education than had the previous generations of students.

With the dramatic disappearance of manufacturing jobs in the United States, especially over the last decade, many more people than ever before consider getting a college education. There is, however, an interesting shift noticeable in the motivation of college students and in the value/meaning of a college education. In the past, roughly speaking, a typical college student belonged to one of the following groups. A student was either (a) a person with a passion for knowledge, (b) an ambitious social climber who did not want the job and the social status his (or her) parents had; or (c) there was always a group of students, often from the privileged social strata, who treated college as their playground and did not care much for obtaining "bookish" knowledge. Today, these three categories of students are joined by a new group—(d) students who would not consider a college education if there were jobs available for them that would secure a "decent living" (this term, obviously, has a very wide range of definitions) without a college diploma.

An important difference between students in groups b and d should be noticed. Group b students are the "escapees"—i.e., they do not want the job nor the lifestyle of their parents. They will do "what it takes" to advance, and often they are genuinely enthusiastic about knowledge and about studying. In humanities, these are the students who, like the group a students, saw the university library as a sanctuary and books as objects of admiration and desire. Group d students would gladly follow their parents' footsteps, they would like to have the jobs their parents used to have if these jobs (e.g., the good jobs of skilled factory workers) were there. But these jobs are gone, and the parents of these young people are often nostalgic for those jobs, idealizing the "good old days." The alternative for the children is either unskilled low-pay labor or jobs that require a college diploma (not always requiring much more knowledge and/or skills than the old manufacturing jobs). So they choose college as a "lesser evil." Often, they focus almost exclusively on preparing for the test and are not interested in knowledge "as such." This does not motivate one to read for the pleasure of reading. These students, often uninterested and unwilling to do anything beyond a minimum requirement, are a new source of frustration for college faculty. A big problem, of course, that resurfaces constantly in faculty complaints is the issue of reading.

The widespread opinion among college faculty is that students do
not like to read. Alarmingly, many students do not like to work with books. They do not like to take books in their hands to search for the right volume in the library. They do not enjoy the physical contact with a book. In addition, books (textbooks and others) have become progressively expensive. Many students did not grow up in households in which the presence of books and the habit of reading existed. Students do not understand long complex sentences in which many of the great books were written, and they are taught that it is wrong to write in such sentences. There are several reasons why students try to avoid classic texts (I refer here to the western, specifically American, tradition only). Some avoid reading for “ideological” reasons, not wanting to read texts written by “Dead White Males.” Some students have difficulties with understanding such texts. Lack of training in languages, especially Latin, and poor knowledge of history often make understanding an author’s point of reference impossible for the student. There are also students with an insufficient command of literary English. After all, reading is a difficult skill to master. (We tend to forget that the really serious worldwide “war against illiteracy” started at the end of the nineteenth century, became effective after World War II, and has not ended yet.) Reading requires a special, very abstract, kind of thinking. The overwhelming majority of scholars, especially in the humanities, have chosen this kind of career because they never experienced difficulty in learning how to read and write. To them, reading and writing skills came “naturally,” usually at an early age, and they have difficulty understanding how it could be otherwise. Hence, they usually have little patience and/or sympathy with otherwise quite bright young people who struggle through a text. On the other hand, the young people were often “spoiled” at a younger age by parents and schools who placed the bar of academic expectations very low and were committed to the “feel good about yourself, no matter what” approach. The culture itself, predominantly in the United States but progressively all over the world, does not support attitudes that are necessary in the humanities—i.e., the love of reading. Reading is time consuming and can be very laborious; the American culture is a culture of “quick fixes,” of speed, and of labor-saving innovations. To gain substantial knowledge through reading, to become a true erudite, requires many years; the American culture is a culture of quick rewards, short memory, and disrespect for old age. The American culture tends to measure the value of a human being according to the amount of money an individual was able to accumulate in as short a time as possible. Given all that, to choose the humanities or any profession that requires extensive reading means a bad investment, a bad business move. These are just a few of the existing problems. In addition, the fact that the overwhelming majority of classic texts do not exist online reinforces students’ association of books with an unpleasant unwanted activity.
There are many alarm bells ringing in order to bring the issue to the attention of all those who might have any power and/or influence to solve the problems of education that occur on all levels. Computerization is, obviously, cited very frequently as a panacea, especially by politicians and by people whose business is computer technology, but they seem to not pay much attention to libraries. One of the chapters in *The Road Ahead* by Bill Gates and his collaborators (1995) is entitled “Education: The Best Investment.” However, neither the chapter, nor the book in general, devotes much attention to the issue of the library. Education seems not to be tied to the library in any crucial way in the mind of Gates and his collaborators. So, perhaps Gertrude Himmelfarb (1999) was right linking Bill Gates with Jacques Derrida:

If I were given to conspiratorial theories, I might speculate that Bill Gates, the chairman of Microsoft, is a secret agent of Jacques Derrida, the high priest of postmodernism. For the new technology is the perfect medium for the new ideology. Surfing through cyberspace is a truly postmodern experience, a liberation from what the postmodernist calls “linear thinking”—a logical rational mode of reasoning. (p. 617)

Like Neil Postman, Himmelfarb too seems to warn that once we lose the ability of linear thinking we will lose the ability to access the world of books as well. This would mean not only that the great library collections probably will become archives, visited only by specialists, it would also mean that civilization based on the preservation of ideas in the form of writing will become a thing of the past. And, by the way, following Lancaster’s concern about the growing dehumanization effect computers have on society, one can ask if they (computers) will need books. The touching scenes from the movie *Bicentennial Man* with the robot dutifully and eagerly studying books in order to become more human are not very convincing to me.

Similarly to Gates, Esther Dyson (1998) devotes less than one page to libraries in her bestseller *Release 2.1* in the chapter entitled “Content Control”; in the chapter entitled “Education,” libraries are all but absent. However, Dyson makes an interesting remark worth quoting—in parentheses—on the changing role of libraries:

How the Net changes the role of libraries overall is an interesting question: Their role as financial intermediaries changes from buying books to providing Net access; whereas once they could finesse decisions about controversial books because of tight budgets, now they have to decide explicitly what to do about access to Net-based materials that may offend some in their communities. Meanwhile their role as guides and as community centers is increased, and they must reach out to those who can’t afford what better-off people have at home. (p. 208)
The university library and the university itself are doubtlessly in the process of revolutionary changes that will result in a concept of producing, disseminating, and storing knowledge which will be very different from what we were used to. Perhaps it will result in a new concept of what is knowledge.

If one would treat things adequately to the meaning of words that describe them, no one should call collections of texts prior to the fourth century (when the manuscripts of bound sheets of velum proved to be better than a roll of papyrus sheets) a "library," and yet we do so. We will probably use the word "library" long after the only "real" books will rest on the shelves of some "archive," "museum," or "rarity" section or in a building that will not resemble at all the library as we know now. The question is what, if anything, will we value so much that it will be considered worth being treasured in a way similar to that of books?

For now, the trend in libraries seems to be, as Lancaster pointed out, the acquisition of skills related to various aspects of computer technology. Lancaster (1999) worries: "If these technological skills are really the most important ones needed by the modern librarian, we are indeed encouraging the complete dehumanization of libraries" (p. 808). It is too early to predict what really will happen. Right now, almost anything is possible although not everything is likely to happen: from a complete decline of a library as we know it, to a renaissance of a traditional library as a place of refuge from the dehumanized world and immersion in what really matters to a thinking human being. No matter what happens, it will reflect the radical turn in the path of human kind that was caused by the computer revolution, a daughter of the printing press revolution, and the granddaughter of writing. Recalling what Robert Escarpit (1966) has written, "writing enabled the word to conquer time, but the book enabled it to conquer space" (p. 18), one might wonder if, with computers apparently nullifying time and space, we have finally approached the possibility of solving the problem that caused the invention of writing in the first place: our need and our desire to share our thoughts and ideas with more people than those present at a given moment within hearing distance from us. The big question then would be, what kind of thoughts and ideas will we have? Will they be worth sharing? What will we do with them? Will anyone guide us in our searches the way great teachers, great books, and great libraries used to?

These questions have existed for a very long time. The more things change, the more they remain the same.

**Acknowledgment**

This article is dedicated to the memory of my grandmother, Anna Jagielska, and Mrs. Halina Skalska, the librarian in the small town of Tychowo, Poland, both of whom taught me as a child how to love books.
REFERENCES


The Social Nature of Information

Mark Alfino and Linda Pierce

Abstract
This article shows how a philosophical analysis of the moral value of information can help librarians rethink some aspects of their professional values, especially their commitment to neutrality. A historical discussion of the "fiction problem" shows how changes in collection practices partly account for the current emphasis on neutrality. This historical example shows the importance of using an analysis of the moral value of information as a guide to future changes in professional mission, especially those that result from new technologies. We argue that information is indirectly but crucially important to a person becoming a morally autonomous individual and to a community's ability to self-govern. The social nature of information has direct consequences for the professional mission of librarians.

Introduction
As librarians enter the new millennium, they are going to be increasingly challenged by the technical and social changes that are altering our world. The advent of the Internet and its consequent challenges to reference service, collection development, and patron expectations, as well as the constantly changing moral character of the United States, must cause librarians to reexamine some of their core values and principles.

This reexamination has led to an increasing number of articles dealing with values and trying to define the core values of the profession (Rogers, 1998; Gorman, 1999). Not surprisingly, the American Library
Association has determined that there is a need for a "Core Values" statement to articulate what the role of the profession is in this time of change.

A key ethical component in all of the core value statements that have been written is the concept of the neutrality of the librarian and the profession. Little discussion has taken place asking whether or not neutrality is still a valid professional position or asking the broader question, is information itself a neutral commodity that allows the librarian or information professional to proclaim themselves neutral in its use or application?

If this discussion is to go forward with any legitimacy, it is essential that even traditional core values be reassessed so that it may be determined whether they remain a help or have become a hindrance to the future of professional librarianship. The concept of neutrality itself was not developed in a vacuum. It evolved as a result of interaction between the library profession and the culture over time. In these new times and changed culture, it is now necessary for us, while learning from the past, to cast a vision for the future that seeks to maintain both the existence and integrity of our profession. While the role of visionary is not one that comes easily to the rational fact-based profession of librarianship or to newly empowered "information scientists," it is necessary to project and reflect on what the profession and libraries will be in the future.

In reflecting on the future, inspiration can be found in Peter Drucker’s (1999) article "Beyond the Information Revolution." Drucker asks the reader to think beyond the typical view of the industrial revolution and look not at the primary technology involved, the steam engine, but at the more profound changes in the interactions of people, the production and distribution of goods, and how the world was viewed. Technology made these changes possible, but it was the technologies’ engendering of social change that became the true legacy of the steam engine.

The "future problem" for Drucker is that people often try to predict the future by focusing on inventions without thinking first about how new technology enables or forces social change. The first steam engines were not initially designed to pull passenger trains, but the genuine social revolution of the steam engine was the way it altered commercial and social relationships. For most information professionals, it is a given that the information revolution will have profound effects on how libraries operate and how librarians will do their jobs. The traditional card catalog and the dependence on traditional paper information sources are not coming back, but the adoption of their electronic equivalents did not really change the essence of what the catalog or the index was, only the format and the ability of librarians and patrons to access the same information more quickly and easily.

As the steam engine changed factories in the eighteenth century, the computer will change libraries in the twenty-first century, but the real challenge is to determine how its use will change librarians, especially
how they think about information and interact with library patrons. In all of the excitement about the immediate, though less profound, changes that computers have brought, we must not lose sight of the fact that we are not merely passive observers but rather have the ability to shape the discussion and influence the decisions that must be made. In order to take part in this discussion and reach an informed decision, it is helpful to look first at our shared history.

The “fiction problem” serves as a case study for how the library profession reacted to a change in technology and the cultural changes that resulted from that technology as well as providing a partial explanation for the development of the neutral position. In the middle of the nineteenth century, rapid improvements in printing technology greatly increased the output of the publishing industry. Lower printing costs combined with an increasingly literate public meant that a much wider variety of materials were being published. Among these was the rise of what was known as pulp fiction. This change in technology and culture created a new challenge for the library profession. Should these new mass marketed works of fiction be included within the library collection?

The decision to actively pursue fiction as a core component of the library collection was a hotly debated issue at the turn of the century. The historical reality, however, was that the profession could not ignore this new wave of publishing. In the end, libraries tried to retain their traditional role as a core educational institution, but the increasing number of fiction titles and their large circulation numbers meant that libraries became more and more an outlet for entertainment.

The librarian moved from educator to the role of reader’s advisor, keeping up on new titles and genres and recommending books to the reader for recreational reading. This move from education to entertainment was a reflection of changes taking place in technology and culture. Adding fiction to collections also meant that the librarian now shifted from a professional with certainty about the inherent moral value of information to being in the position of selecting and recommending to patrons material that previously did not meet professional standards for quality or value.

When this shift occurred and librarians were put in the position of recommending popular fiction, they faced the new question of how to determine what was proper to recommend and what was not, and what was the role of the librarian’s personal value structure and taste in these recommendations. This difficulty concerning personal judgment was one of the contributing factors in the now institutionalized and codified stance of professional neutrality regarding information. It increasingly became easier for a librarian to adopt a code of neutrality rather than constantly defend professional decisions regarding collection development and appropriate patron reading material.
FROM THE FICTION PROBLEM TO THE INTERNET PROBLEM

The "fiction problem" was a problem because it forced the profession to make decisions that, prior to this technological and cultural change, had not been necessary. Before this technological and cultural shift, the librarian's job was to make not just judgments about the quality of the information but also about its moral value and its value to the community as a whole. Librarians did not feel the need to apologize for saying that fiction was not worthy of inclusion in the collection. After this debate, it became increasingly accepted that, while librarians may have private views on what information is good or bad, moral or immoral, it is no longer their job and responsibility to reflect those views in their collection or share those views with their patrons.

The adoption of a position of neutrality affected collection development by opening the floodgates for the inclusion of many types of material into the collection that had not previously been there. Yet the library did not open the gates to all materials because it was still working with limiting factors such as money that necessitated collection development guidelines and the continuing influence of local community values on the library system.

A position of neutrality was more easily adopted in the area of public service, first, because the collection was still limited in scope, and second, because it made the job of the librarian easier. It was no longer necessary to question the patron's need for, or possible use of, the information requested. The skills of the librarian became less dependent upon any ability to discern but rather upon technical skills of retrieval.

By the 1970s, the library system had achieved a certain balance in regards to these issues. Collections had been broadened and enhanced by the inclusion of previously excluded groups and by the greater variety of media resources available in the library. Restrictions on patron access had been eased or eliminated, library conflict with communities and local values had become relatively isolated, and procedures had been established to deal with these challenges.

Today that balance has been destroyed; we now face the "Internet problem" which is similar to the "fiction problem" of a hundred years ago. How do we deal with the great wealth of new information that has become available because of this new technology? The easy answer is to rely on the answer of the past, which is largely based on the value of neutrality. The problem is that neutrality does not seem to be a sufficient answer. Take, for example, article two of the Library Bill of Rights (1996): "Libraries should provide materials and information presenting all points of view on current and historical issues. Materials should not be proscribed or removed because of partisan or doctrinal disapproval." This is a very strong expression of neutrality and, as we have pointed out, it was functional because, though it argued for no exclusion, the reality of the situation excluded
large classes of material. One example would be pornography. In the pre-Internet era, while neutrality might dictate that partisan or doctrinal influences should not keep a particular item out of the library, the reality was that one could exclude it from the library on the basis of collection development policy and limited resources. With the advent of the Internet era, pornography can now enter the library free of cost without being subject to the criteria of collection development. The Internet then becomes the portal for content to enter the library without any professional assessment or evaluation.

The profession cannot return to the “good old days” in our diverse and changing social and intellectual climate. It is unacceptable for anyone to curtail or dictate others’ reading based on personal moral values or opinions about literary quality. But now, with the possible effect of the Internet on collection policy, we are faced with generalizing the current stance of professional neutrality to all information. Doing so may have huge unanticipated consequences for the next generation of librarians just as the move to professional neutrality had for the generations following the “fiction debate.” Specifically, the quest for neutrality in the information age could deprofessionalize librarianship by making librarians deskill technicians serving increasingly automated expert information systems. Such a change would favor the types of information that automated systems are equipped to handle; it would favor discrete factual information over complex reflective inquiry.

The changing priorities of libraries and the library profession in the twenty-first century are driven by the same concerns as those at the turn of the last century. Librarians want to keep their constituents happy and that means giving them what they want, when they want it. Discussions now center on how to provide online 24/7 reference service to patrons, find money for e-books, and increase Internet access. Many of these discussions are taking place in libraries not only because assumptions are made that this is what patrons want but also because there is a fear of being seen as unnecessary, old fashioned, and consequently not relevant or needed. Ironically, in an effort to incorporate advanced information technology, librarians may hasten the public perception that the “public” resources of the Web constitute a library. The dangers in this perception should be obvious—the Internet is not a library; it is “public” without necessarily being in the public’s interest, and if online information were perceived as a “library,” why would the public support a library?

Given this challenge, discussing the nature of information and its moral character becomes a fundamental theoretical challenge for the professional. If the profession still espouses neutrality and intellectual freedom as its core values, then it needs to have a more complete sense of why neutrality is a worthy goal or even a possibility.
Looking for the Moral Character of Information

To better understand some of the choices that face librarians in the information age, a deeper understanding of the importance and value of information is needed. Initially, this appears to be an easy task. Information is so crucial to almost every purposive human activity that we are tempted to say that information has a central importance to human affairs and leave the matter at that. But our task is not simply to understand the general value of information but to understand it as a morally important phenomenon. After all, information about home security systems has a general value to both homeowners and burglars, but it has no morally legitimate value for the would-be burglar. After the analysis of the moral importance of information, we will attempt to revise the mission of the information age librarian in a way that moves away from simple neutrality and toward an active role for librarians as "public intellectuals," valuing intellectual integrity, personal growth of the patron, and the development of their community's reflective skills. Much in this vision may strike the reader as controversial or radical. The warrant for this conclusion, however, lies in the account of the moral importance of information to which we now turn.

Information is easy to define precisely but hard to understand deeply. Before trying to characterize the moral value of information, we might try to explain what we mean by a quantity of information. After all, a convincing model for measuring something might lead you to an understanding of what it is you are measuring. In this endeavor, communication theorists were right to focus on Claude Shannon's (1948) formulation of the mathematical definition of information as the most precise and succinct characterization of the nature of information. Shannon defines information as the resolution of uncertainty. Specific pieces of information carry more or less information depending on how much uncertainty they resolve. Uncertainty can be understood in binary terms. The more yes/no questions you have to ask in order to resolve your uncertainty, the more information you are receiving. In general then, a quantity of information is the average number of binary operations (analogous to yes/no questions) needed to transmit a message.

There is something brilliant and yet puzzling about the mathematical theory of information. Shannon's fundamental insight allowed him to make a theoretical connection between our intuitive sense that information is about reducing uncertainty and a technical—ultimately computational—way of quantifying uncertainty in binary terms. If information is thought of purely as an object being transmitted between two relatively unintelligent machines (like a transmitter and a receiver), then the mathematical theory of information gives a complete characterization of information.

This objective characterization of information could also be an appealing model for librarians. After all, patrons enter the library with un-
certainty: What should I read next? Will the book I want be available? How much is my used car worth? Maybe the librarian’s job is to reduce that uncertainty, either passively by creating a system for patrons to find their own information or actively by working directly with patrons’ needs. Given that librarians and the public both perceive the role of libraries in terms of delivering information quickly and conveniently, why not simply conclude that the professional obligation of librarians is to value information for its ability to reduce uncertainty and that libraries ought to be valued in terms of their ability to do the same? This approach would give libraries a clear and precise mission with a measurable goal.

While this is a superficial and incomplete understanding of the value of information in librarianship, there is, of course, something basic and valuable about being able to find answers to specific questions quickly and efficiently. From an information science perspective, databases and search algorithms that return relevant information quickly are to be preferred over those that do not. Anyone who has found information from a Web site with three “clicks” as opposed to twenty can attest to this. Likewise, a highly predictable and intuitive thesaurus of search terms is often preferable to one that requires elaborate rethinking of concepts to match information needs with results. When the goal of information retrieval is “transparency,” putting as few layers of mediating information between a question and an answer, the mathematical theory of information gives us the most powerful model for thinking about information and evaluating the success of our efforts to organize it.

We go wrong in our thinking about libraries when we take the ideal of transparency to be definitive of the mission of the library. If we think more carefully about the mathematical theory of information, we will see its shortcomings for a comprehensive view of the value of information for human beings. By correcting these shortcomings, we can justify and describe a more compelling vision of librarianship, one that integrates the best technical achievements of the information technology revolution with a profound understanding of the moral value of information.

First, what is wrong with “transparency” as the fundamental information value for librarians? An exclusive focus on answering patrons’ immediate information needs with as little mediating involvement as possible assumes that the demand for information is already well-formed in the patron, and that the information sought is discrete. This might adequately characterize the reference interview when the patron is seeking information about used car values or when a patron seeks a particular book title, but it does not capture the needs of a patron who has less well-formed goals, more complex needs, or more open-ended projects. In these cases, the reference interview often requires librarians to ask questions that, temporarily, increase uncertainty in the patron. We might ask, for example, if the patron has thought about a particular aspect of the topic. We also
make judgments about the scope of the patron's inquiry. Are they just looking for a book to get started, or are they planning to spend a few hours going through a variety of sources? Most significantly, we might be tempted to discuss the topic with the patron—until, that is, our "professional neutrality" checks us. On the mathematical theory of information, increasing uncertainty is technically a negative quantity of information. Assessing the patron's subjective situation and engaging in dialogue are both undefined within the quantitative model.

Shannon's description of information adequately characterizes the actual transmission or flow of information. Even within each of the examples above, you could identify a moment of uncertainty triggered by a question and then analyze the resolution of that uncertainty in terms of the amount of information needed to resolve it. That is why Shannon's insight is so useful to communication theorists. It works as well when describing information flows between computers as between humans. Indeed, there are common features to both types of communication.

The problem is that it does not characterize the complexity of human inquiry. Inquiry involves information flow but within the context of human goals and purposes. When I engage in inquiry, I must be open to a more circuitous path toward the resolution of uncertainty. Along the way, I may need to tolerate increases in my uncertainty, especially if my inquiry takes me into unfamiliar areas. Also, the inquirer must be open to questioning and reflecting on his or her orientation to the inquiry. While librarians must be respectful of the patron's right to control the relationship, they should not allow their neutrality commitments to foreclose meaningful interaction with the patron.

Another way of characterizing the problem is to say that, in human inquiry, the formulation of the problem is often fluid. In complex issues, we often do not know what sort of a problem a question really involves until we begin studying it. Our model of the problem changes during the process of inquiry. These shifts in our understanding of a problem or issue under inquiry often come as the result of acquiring new information and bring with them heightened uncertainty. If we were to graph the relationship between uncertainty and information during the process of inquiry, we would see, with inquiries of any complexity, a nonlinear relationship, with many changes in the direction of the data trends.

Inquiry also requires complex guidance. Like a good teacher, a good librarian constantly evaluates feedback from the patron to determine the appropriate directions to suggest for further inquiry. Assessing the maturity and interest level of the patron is something that our neutrality oriented library culture has become uncomfortable with, but value judgments are crucial to both reference work and collections. As we argued in the first section of this article, the current emphasis on information technology in librarianship could put further pressure on librarians to maintain
strict value neutrality in patron interactions. An exaggerated concern for neutrality might lead librarians to favor new information technology that emphasizes the speedy delivery of "neutral" information to the patron over the more complex involvement with a project of inquiry. The guidance required to lead a patron through a complex inquiry is labor-intensive and requires librarians to make substantial subjective judgments about patrons. Since we are rightly concerned about making prejudicial judgments, we might favor a heightened neutrality in which we simply work to increase transparency between patrons and their self-guided inquiries. But, as we noted at the outset, this may lead us unwittingly into a very different conception of librarianship than is needed to support the complex needs of patrons most of the time. "Hyper-neutrality" favors discrete objective information over reflective inquiry.

Most of the limitations of the mathematical definition of information come from its assumption that the person transmitting information already knows what he or she wants to communicate. When librarians are responding to direct inquiries from patrons, the patron's needs do (or should) determine the content of the librarians' responses. But librarians are also professionally engaged in a much more open-ended, less determinate task—deciding what to collect. In this endeavor, the question is often "What should the patron want to know?" rather than "What does the patron want to know?" The technical understanding of information can help with the second question but not the first. As we will see much later in our argument, if we appreciate the social nature of information, we will understand how central normative questions are to librarianship.

If the mathematical concept of information cannot provide the basis for understanding the moral value of information, what approach can? Progress on this question is only possible if we think about patrons as engaged in the morally significant task of leading an effective, responsible, and productive life. Before moving on to that account, we should note that the current approach was not a complete failure. However complex the process of inquiry, it will always take place within a general structure of resolving uncertainty. Also, even if the complexities of human interaction prevent us from focusing exclusively on transparency and neutrality in information delivery, we will still want transparency in the data structures and search tools we use to serve patrons. We can conclude, however, that a purely technical conception of information fails to ground a complete understanding of what librarians in fact do.

**Information, Autonomy, and Community**

The moral importance of information cannot be appreciated from a purely objective characterization of it such as we found in Claude Shannon's (1948) view. Rather, we need to examine the role that information plays in an individual's and community's effort to lead an effective, responsible,
and productive life. In moral philosophy, such accounts often begin with an explication of the centrality of autonomy. This will lead us to two conclusions: (1) information plays a crucial role in the developmental task of leading a self-governing life, which is what we mean by personal autonomy; and (2) there is an analogy between the ability of a person to become self-governing and the ability of a community to self-govern. In the language of a previous generation, the personal is the political. But then Plato already made this point by articulating the analogy between virtue in the individual and virtue in the state. Understanding the role that information plays in the social life of a community will help us appreciate the larger mission of the library in the life of the community.

In moral philosophy, autonomy is simply the ability or duty to self-legislate one’s conduct. Of course, there are many ways of doing this and not just any set of rules will do. What set of rules should one adopt to govern one’s conduct? This may be the most fundamental practical question in moral development. The famous political and moral philosopher, John Rawls (1999), answers the question this way: “Acting autonomously is acting from principles that we would consent to as free and equal rational beings, and that we are to understand in this way” (p. 453). What Rawls calls attention to is the way that people need to be situated in order for their behavior to be called autonomous. The hope is that “free and equal rational beings” would voluntarily choose to act from principles that are mutually compatible and which work to promote positive human values. The alternative to this way of thinking about the basis of moral conduct is to either imagine the principles of our conduct coming to us from outside our will and being imposed on us or to imagine that the mere fact that we choose some principles to act on justifies them. For various reasons, neither of these alternatives is appealing, so we try to theorize moral autonomy as an ability to freely choose personal principles of conduct that still make sense from a social or universal standpoint.

Much in our moral upbringing and socialization is designed to encourage us to adopt the special standpoint of “free and rational” beings from which the choice of principles is supposed to take place. We encourage children to act on fair rules of play, to understand what respecting others requires, and to understand the importance of avoiding arbitrariness and irrational preference in the way they interact with others. This is all part of the direct and self-conscious moral education in human cultures.

But what does this have to do with libraries? Are libraries instruments of moral education? Do we really want to give librarians such a mission? Probably not. Certainly primary school librarians are as engaged as other primary school teachers in the direct moral education of children, but it would seem odd to think of most librarians as having such a mission. Librarians correctly perceive themselves to be providers of library services to patrons, not in directing moral education.
However, direct moral education is only part of the development of autonomy. Many of our interactions with others have a less obvious moral component, one that is related to autonomy. Autonomy should not simply be thought of in the narrow sense as the development of moral principles of conduct. Broadly, our sense of our own autonomy is concerned with a general competence to understand the world and make prudent decisions in it. Clearly, the development of this competence is not limited to a particular stage of a person's life. While most of us consolidate moral autonomy by the time we reach adulthood, the more general competence we cultivate in dealing with the world successfully is a key part of our sense of personal identity and power. It is here that the information provided by libraries plays a morally significant role in people's lives. Libraries empower individuals by creating an information-rich atmosphere within which the patron can experience a sense of possibility and a belief that a growth in personal autonomy is possible. Whether the patron is pursuing practical goals, such as learning how to refinish furniture or find a job, or more speculative goals, such as understanding new theories of the cosmos, the moral dimension of inquiry is its effect on an individual's ability to make better choices of action and principles of action. The moral character of information is its ability, in the context of expert guidance, to produce this effect. Or, to put the conclusion more precisely, information itself is morally neutral but, in the context of guided inquiry, it supports the development of personal autonomy and personal agency. Personal autonomy goes beyond moral autonomy to include the general ability to understand reality in a way that improves choice. As we will argue later, to realize this moral value of information, librarians must understand themselves as supporting a value-rich, rather than value-neutral, learning atmosphere.

It might be posited that this way of thinking ignores just how mundane much library use is. Perhaps in trying to find the moral significance of information, we are overstating what is happening when patrons use their libraries. After all, a good deal of circulation might be attributable to the patron's desire to take care of life's ordinary chores or to find an entertaining book. Why talk about enhancing "agency" and improving decision-making if the patron is just looking for escape fiction?

As reasonable as the objection may sound, it assumes a simple relationship between the moral and the practical that, for good reasons, contemporary moral theorists are increasingly abandoning. Most people think of moral questions and issues as problems that intrude upon their practical lives and, indeed, moral crises and moral dilemmas have this character. But morality can also be seen, from a naturalist perspective, as part of a general strategy humans use to further their survival and to flourish. We can see this in fundamental moral values like autonomy in which the same virtues of self-reliance and rational choice help with both specifically moral conduct and with being a generally effective individual. In other words,
the relationship between practical living—being an effective person leading a rational life—and distinctively moral conduct, such as deciding whether to lie or to honor an agreement, is more seamless than might be supposed. So while the library patron researching a consumer product is probably not solving a moral dilemma, she is using information to rationalize her choices and increase her practical autonomy. On some days, the task of living well involves reducing stress by finding an easy escape into fiction. Part of the librarian’s mission might be to model a holistic “diet” of information, but one that will require substantive judgment, not strict neutrality.

The last step in our argument about the social nature of information is to show the connection between the moral value of information to the individual and its role in community life. In an individualistic culture such as ours, it might be thought that this connection is hard to show but, if we borrow a metaphor from management information science, we can make the relationship clear.

Management information theorists often talk about the value of integrated information systems in business in terms of “decision support.” Simply connecting various databases and data streams in a business enterprise is not particularly valuable to business strategy unless you can show that it allows you to make better decisions. Of course, integration can still improve some business functions, but to really affect planning and development, information technology has to make inquiry possible, especially open-ended inquiry about uncertain futures.

Just as individuals can use their libraries for purely discrete factual questions or for more substantive inquiry and personal growth, so likewise communities can look to libraries to provide decision support to help the community “self-legislate” its future, thereby becoming more autonomous. While we tend to view social decision making as part of the political process and, as such, a purely practical function, we should consider its moral component, just as we did with personal autonomy. Like individuals, communities have relative abilities to self-govern and to choose courses of action that satisfy principles of rationality and morality. Just as individuals often look to authorities for guidance, communities often depend on the abilities and foresight of their leadership. However, libraries are almost as well suited to lead communities in inquiry as they are to lead individuals in inquiry.

As we discussed in our book, *Information Ethics for Librarians*, libraries sometimes avoid this public interest mission out of concerns for value neutrality (Alfino & Pierce, 1997, p. 10). Indeed, there are reasonable concerns about “politicizing” public libraries, just as there are inescapable value conflicts over collection development in relation to individual tastes and preferences. But in light of our analysis of the moral importance of information, especially its social role in promoting good community deci-
sion making, librarians should reconsider their commitment to neutrality. In its place, the profession could cultivate a reputation for intellectual integrity and fairness in the presentation of issues of social and political importance.

**CONCLUSION**

We have argued, in a case study of the fiction problem, that librarians sometimes allow the law of unintended consequences to steer their sense of professional identity. By allowing popular fiction into their collections, librarians did "choose" to adopt a stance of neutrality regarding the ultimate value of this material, but this choice took on a life of its own, ultimately elevating neutrality to a higher status than it perhaps deserved. To understand the values that should govern library service, we looked at the nature of information and argued that information is morally valuable because it plays a crucial role in establishing an individual's moral autonomy. Ultimately, autonomy is a social good because it enables individuals to choose principles of conduct for themselves in relation to others. Communities, we argued, also pursue a project of autonomy for which information is crucial. This analysis suggests that librarians, as information specialists, should see themselves as involved in the kind of complex inquiry-based relationships with patrons that autonomy demands. Likewise, librarians should rededicate themselves to the role of "public intellectuals," leading their communities in the discussion of issues affecting the area which they serve.

How does this argument change the librarian's mission on a practical level? Most librarians probably share a common faith—i.e., by providing open access to good resources, patrons will be empowered in their pursuit of personal growth. Nothing in our argument changes this fundamental hope. However, by changing our approach to neutrality, we feel that librarians can pursue this goal more effectively. To give a more concrete idea of the shift in professional values that might come about from this change, we identify some specific behaviors in patron interaction, some values in the use of technology, and some values in public library programming that might be emphasized as a consequence of our argument.

First, we need to become more aware of the way in which our interactions with patrons reinforce our openness to engage in shared inquiry. Library patrons approach the reference desk with a variety of assumptions about the kind of help they should expect. If we limit our responses to patrons to narrow answers to their questions, we reinforce the idea that the reference desk is only for answering technical questions about resources in the collection and search techniques. Likewise, centralized online or telephone reference, sometimes offered on a 24 hour, 7 day a week basis, has a bias toward discrete information requests in which the patron is further insulated from acquiring information search skills. In our view,
the reference desk is a place where patrons can receive substantial guidance in shaping and pursuing an inquiry. Even discrete information requests offer librarians a chance to teach some search skills. When we encourage patrons to see reference help primarily in terms of factual information retrieval and technical assistance with computers, we miss opportunities to show patrons the difference between a library and a collection of networked information resources.

Professional librarians spend a good deal of time choosing hardware and software technology for their collections. Indeed, an increasing amount of collection development is about collecting electronic resources, both by purchasing resources in electronic form and by agreeing to purchase access to remote content. This shift in collections media has already brought patrons a wealth of new information, but our choices of search interfaces and our response to the Internet as a search medium can reinforce an impoverished conception of inquiry. For example, an increasing reliance on keyword searches, as opposed to structured subject index-based searches, reinforces the patron's perception that inquiry does not depend on making contact with an organized body of knowledge. Search products that emphasize recall over precision initially impress patrons with the amount of information returned, but in the long run these products will reinforce a negative perception of organized inquiry. De-emphasizing "search formulation" may speed more patrons through the library and may reduce the staffing needs of the reference desk, but it will ultimately reduce the competence and personal autonomy of the patron. Already we have anecdotal evidence of patrons who see little difference among such diverse resources as the electronic card catalog, periodical databases, amazon.com, and altavista.com. Instead of making inquiry seem as simple as the search box on a major Internet search engine, we should help patrons see the crucial differences between structured and unstructured searching.

Finally, in public programming, especially in public libraries, we have an opportunity to realize the library's potential for increasing community autonomy. Traditional efforts in the area of story times, literacy, and summer reading programs already contribute to the development of future patrons. Also, when public libraries offer workshops on gardening, travel, and used car purchasing, they are both showcasing the usefulness of their resources and increasing the personal autonomy of their patrons. Because of reactions to controversial library displays and because librarians are overly concerned about neutrality, libraries have generally avoided programming on political and social issues. But these are just the areas of public life in which community autonomy can and should be improved in a democracy.

Using the collection and professional library skills to promote discussion of important social and political issues will necessarily place the li-
library at the center of numerous competing interests. Of course, in quieter ways, collection policy already does this. As long as librarians have confidence in their intellectual integrity and in their ability to persuade the public that they are presenting information in a fair and balanced way, the library can and should develop programming that is targeted to the needs and issues facing its community. If information is morally important in the ways we have described, then librarians should become "public intellectuals," guiding communities through issues of the day with on-site and online presentations of public issues. Librarians will need tenure-like job protections to do this work, and they will need to distinguish between their expertise in evaluating sources and their lack of expertise in the content areas into which they delve, but ultimately the risk is worthwhile. Libraries that can provide high quality "decision support" to their communities will strengthen democratic institutions, offer correctives to biased information sources, and promote a higher quality of discussion in their communities.

Librarians face far more profound choices today than those posed by the new technologies they purchase. Librarians must choose between two important and different ways of modeling information virtues. We could become more like the electronic technologies we buy, emphasizing discrete information retrieval and neutrality with respect to the patron's project of inquiry. Or, we could stock our libraries with these same technologies but move our standards of service in a different direction: focusing on qualitatively rich interactions with patrons and emphasizing the differences between electronic searching and human inquiry. Our preference for the second alternative is based on the social value of information in human inquiry.

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Some Ethical Aspects of Being an Information Professional

ROBERT G. WENGERT

ABSTRACT

Discussions of ethics and libraries frequently focus on rights, especially the right of privacy and its role in supporting resistance to censorship. This article, using issues of censorship as particular examples, questions whether a focus on rights leads to a narrow idea of the library profession and its clients. It suggests that stressing the role of library professionals as teachers, as experts who instruct others on how to better achieve the projects that they have in mind, will lead to a richer and more realistic ethical conversation.

INTRODUCTION

People of a certain age remember when it was expected that a librarian might very well tell one that certain material was inappropriate for children of a certain age. One hoped, of course, that what was inappropriate about it was that it was naughty, and one therefore wanted more than ever to read what one was told was inappropriate. The librarian was seen as "one who exercises official or officious supervision over morals and conduct," which is just the Oxford English dictionary's definition of a censor. There was information there that was wanted, and someone was making it difficult to attain.

In reality, the librarian was probably more concerned with the fact that one was so ignorant that one could not possibly understand the material being requested. The librarian recognized that exposing someone to data might not provide that person with information. Modern technology
has merely accentuated this contrast between data and information, providing a perfect arena for professionals with a librarian's skills. It has also made their role in forming, disseminating and, sometimes, restricting that information more central than ever.

The Internet drives home the need for someone knowledgeable who can locate, review, and organize all the material that is constantly engulfing users in ever accelerating waves. There is so much material, much of it garbage, and few have either the competence or the time to carefully review the accuracy or quality of what can be found by clicking a few times in a browser or typing in a few related words prefaced by mystical "+" signs in one's favorite search engine. It is always a relief to find a coherently organized page that enables one to quickly focus on just the answer to the question that one had. That sort of organization turns the swirl of data into something useable—i.e., into information.

On reflection, one realizes that libraries and librarians have always done this for their patrons. They brought together the reference books, the texts, the journals that they thought would most effectively provide answers to the questions that were likely to be asked. They also gathered items that they thought patrons would enjoy. The difference was that most users never saw them making those decisions, never saw the maelstrom of wildly inaccurate reference books, idiotic texts, or simple trash that the librarians decided would waste space that could be put to better use. At present, all users face, on their desktops, this welter of information; people are brutally familiar with the riot of data available to them. This awareness makes them more appreciative of the need to turn these data into useable information.

A PROPOSED DEFINITION OF INFORMATION

Barwise and Seligman (1997) investigate the very possibility of one thing carrying information about another. They stress that there is nothing particularly modern or new about information:

Once one reflects on the idea of information flowing, it can be seen to flow everywhere—not just in computers and along telephone wires but in every human gesture and fluctuation of the natural world. Information flow is necessary for life. It guides every action, molds every thought, and sustains the many complex interactions that make up any natural system or social organization. Clouds carry information about forthcoming storms; a scent on the breeze carries information to the predator about the location of prey; the rings of a tree carry information about its age; a line outside the gas station carries information about measures in the national budget; images on a television screen in Taiwan can carry information about simultaneous events in Britain; the light from a star carries information about the chemical composition of gases on the other side of the universe; and the resigned shrug of a loved one may carry information about a mental state that could not be conveyed in words.
With this perspective, the current revolution appears to be primarily technological, with people discovering new and more efficient ways to transform and transmit information. Information is and always was all around us, saturating the universe; now there are new ways of mining the raw material, generating new products, and shipping them to increasingly hungry markets. (p. 4)

Their investigation notes critical features of information that are sometimes overlooked:

There are no completely safe ways of talking about information. The metaphor of information flowing is often misleading when applied to specific items of information even if the general picture is usefully evocative of movement in space and time. The metaphor of information content is even worse, suggesting as it does that the information is somehow intrinsically contained in the source and so is equally informative to everyone and in every context. (p. 12)

In recognition of the last point, that information is not like light, which equally illuminates everything it touches, but depends integrally on the receiver, one of their preliminary definitions becomes:

To a person with prior knowledge \( k \), \( r \) being \( F \) carries the information that \( s \) is \( G \) if in every state compatible with \( k \) in which \( r \) is \( F \), \( s \) is \( G \) (and there is at least one state compatible with \( k \) in which \( s \) is not \( G \)). (p. 20)

They need the technical vocabulary for their theory, but one can stick with the simple ideas that underlie this definition. The first clause is central for distinguishing data from information.

To take a real, if somewhat embarrassing example, I was startled one day to note that a small plastic device that belonged to my son, and was lying on the library table, was quivering. I was astonished and assumed that I was observing the death throes of something that might be important. I called to my son to come quickly to save the device only to be told with the scorn reserved for backward fathers that the quivering was the way that a pager silently indicates that someone is paging you. The event (\( r \) being \( F \), in this case, the plastic device quivering) was the same for both my son and me. But while that event carried the information for my son that someone was paging him (\( s \) is \( G \)), it merely surprised me because I lacked the needed prior knowledge \( k \) that the device was a pager and that quivering is how pagers silently indicate a page. The parenthetical clause in the definition rules out the claim that contingent events, such as the device quivering, carry the information that some necessary fact, for example, two plus two is four, is true; for while the first part of the definition would fit that case, there is no state compatible with anyone's knowledge \( k \) in which two plus two is not four.

Without the appropriate background knowledge, data are just data; they are given to one but one has no idea what to do with them. Anyone
who seeks to teach recognizes this central factor; for some audiences a remark, a phrase, or a formula might be enough to convey the information that one seeks to transmit, but other audiences lack the background knowledge needed to see how such remarks are connected to the topic at hand. The theory applies to this case: a teacher ought to have enough background knowledge about instruction to recognize that the blank stares being given provide the information that one has not adequately prepared the audience.

Especially in the information age, libraries are, and should be, information providers, not just databases. This is not a new battle for libraries and their professionals. The Greek bibliothēkē became the Latin bibliotheca and literally meant “book-case,” which could stand for an inert collection of books. But already with the library of Alexandria, the institution provided more than just shelving; it, along with the Museion, became gathering places for scholars. There is a need to have people with sufficient knowledge to turn the data found in books into information. Libraries are places where people learn, not just borrow.

The task continues today in every modern library where professionals seek to develop a collection adequate to provide clients with the background knowledge that will enable them to use the other items in the library in an informative way. Reference librarians are there to help users decipher the terms and references that mean nothing to the ordinary person. This distinguishes the information professional from the book clerk, and this makes the ethical life within the library profession more interesting than it is sometimes made out to be.

NEW FORMS OF INFORMATION FLOW

The discipline of library and informational science today faces opportunities and challenges analogous to those faced by modern biology as the federal government and the firm Celera Genomics announce the completion of the first draft of the human genome. This provides a generic representation of the total genetic composition of a human being. But the first warning that researchers give is that knowing the 30,000 or so genes encoded in human DNA, while fundamental, does not itself help explain how these contribute to the formation of the proteins which are in fact the building blocks of the organisms in which we are most interested. The genes are important data, but turning this into the information that will help develop better strains of plants or block horrific diseases in humans is going to require a great deal of intelligence and hard work.

Professionals in library and information science are being faced with a comparable task. The powerful search engines that are now available can often find thousands, even hundreds of thousands, of Web pages containing the code, the words for which one has searched. But while these
are important data, they are invariably too raw to be of much use. One needs to sift, organize, and coherently relate all these items in order to provide useful productive information. This is one way in which new technology is pressuring changes in the activities of libraries and their professionals.

In the past, one of the reasons why libraries were important was the scarcity of the resources that they contained. It was not long ago that very few families had complete encyclopedias in their homes. Now anyone with a connection to the Internet can go to Project Gutenberg (1971-2000) or to BiblioBytes (2000) and download for free texts that many local libraries were never able to stock. People with a Rocket eBook can go to the Rocket-Library (2000) to download for free the thousands of texts that are there. At the Rocket-Library one can even see, within each category, which texts have been most often downloaded. A philosopher is somewhat nonplused to see that in the Rocket-Library's category labeled "Philosophy" the most frequently sought after title is *The Art of War* by Sun Tzu which has been downloaded 14,595 times. A distant second in this category is *The Constitution of the United States*, which was downloaded 1,348 times. In the category labeled "computers," the most frequently downloaded title was *How to Become a Hacker*, which got downloaded 5,683 times.

These collections and sites are growing like weeds. Most of the free sites depend on volunteers who type in or scan in the text and upload it to the site. This means that not only are there frequently mistakes in what gets contributed, but the selection of what gets contributed is totally dependent on the whims and interests of the volunteers. A quick glance over the 337 titles in the Rocket-Library collection called "philosophy" shows mostly gaps, bizarre inclusions, and no coherence.

One may go to more organized sites such as Russell McNeil's *Great Books* site (Malaspina 1995-2000), which enables one to find references and texts on the Web or to other truly useful sites such as, in philosophy, EpistemeLinks (2000), but it becomes apparent when doing this that one is haphazardly trying to set up a reference desk, a task for which one typically has not the time, the knowledge, or the skills. It is not that there is material to which one does not have access; the problem is that there is ready access to too much material and one needs help from someone with the knowledge and the skills to organize that material in ways that will help one pursue the topics that one really should be pursuing.

Part of the mission of the new technological library is that it must become the reliable informational and educational portal to the flood of information in which everyone is drowning. This is a very tough high stakes game. There are huge sophisticated commercial portals that dominate the Web. MediaMetrix (2000) recently related its list of the fifty sites throughout the world that were visited during May 2000 by the greatest number of different individuals. After AOL with 59 million unique visi-
tors, they report Microsoft with 49 million, Yahoo with 48 million, then Lycos and Excite with 32 and 28 million visitors respectively that month. These are all central sites from which one may then go off to find whatever it is that one specifically had in mind. The modern library will have to compete with such giants, creating more coherent, more useful guides to the oceans of data becoming available. To do this well, libraries will have to be more discriminating than these commercial portals. That means that libraries must choose to include and to exclude various items. And this raises the issue of restricting access to data, which often provokes charges of censorship.

**IS ANY RESTRICTION ON PROVIDING INFORMATION CENSORSHIP?**

One recognizes that the very task of organizing data coherently and effectively brings with it some of the ethical concerns that information specialists face. One must know the material well enough to produce an adequate organization and not to include material that is incorrect or will mislead. Here one faces the ethical concerns of professionalism in the field and the worry that at times one may be guilty of informational malpractice or of censorship.

The ALA document on *Free Access to Libraries for Minors* states: "The selection and development of library resources should not be diluted because of minors having the same access to library resources as adult users. Institutional self-censorship diminishes the credibility of the library in the community, and restricts access for all library users" (American Library Association, 1991). When dealing with topics about which there is disagreement, one must decide which views to include and which to leave out, which to emphasize and which to barely note, which to present approvingly and which to mention only to dismiss. The American Library Association Code of Ethics notes of its members: "We significantly influence or control the selection, organization, preservation, and dissemination of information" (American Library Association, 1995). Such tasks immediately raise the concerns of bias, censorship, or being judgmental.

These same ethical concerns arise when one asks how available to make this information, how to disseminate it, and to whom. The most widely reported cases of censorship typically have to do with sexual content or content that is in some other way offensive—*Playboy* and *Huckleberry Finn* get frequent headlines. It is an interesting question, however, to ask whether the importance given to such cases derives from a concern with censorship or whether it lies rather in the fact that many people are offended. When people are offended, they complain, and when people complain, public institutions such as libraries must respond. The discussion arises from deliberating over what is the appropriate response to the complaints. But while opposition to censorship may often be appealed to
as grounds for ignoring some complaints, it is less clear that there is anything more inherently wrong in censorship than in seeking to minimize noise, odor, or crowding. Libraries regularly have patrons complain that the library has gotten too noisy, that they are offended by the odors of the homeless sleeping on the couches, or that areas have gotten too crowded. While frequently recognizing such complaints as legitimate, one also knows that noise, odor, and crowding are always with us; there is no way to totally eliminate them and there is nothing inherently wrong about them. It is worth exploring whether opposition to censorship is more like opposition to noise than like opposition to theft which, one thinks, is unacceptable in any form.

**WHEN IS ONE CENSORING?**

The definition of information proposed by Barwise and Seligman (1997) makes it clear that what might be called censorship at times is nothing more than the considered judgment of an expert that the person in question does not have the background knowledge required to interpret the raw data as information. It is not censorship to decide not to purchase, for a mostly monolingual American community, a reference book that is in German. One would dissuade a middle-school student who was looking for a science project from taking out a book on quantum mechanics. But at other times the concern is not that there is a lack of technical understanding, but that the information could lead to harmful results if the user has not thought carefully about how to use it.

The problem was driven home to me when I was preparing material to give a presentation on professional ethics and librarians for Iowa’s state library convention. While thinking about these matters, I ran across an item in a magazine that said that Paladin Press had an Action Library series that included titles such as *Homemade Mortar Construction Manual* and *Homemade Grenade Launchers* and *High-Tech Harassment: How to Get Even with Anybody, Anytime*. I did not investigate the matter any further, but remarked to the convention that I sincerely hoped that their libraries censored such material and did not make it available in their Junior Reader section.

Being the information specialists that they are, one of the participants came up afterward and asked for the reference to the item that I had cited. Embarrassed, I sheepishly admitted that I had not brought it with me, but I promised, on getting back to my office, that I would send it to him. I did, and in my accompanying note to him I speculated that the whole thing might be a send-up, might be a joke. Two weeks later I received a note from him saying that it was no joke, and he included a copy of the catalog for Paladin Press, which included the above items and much more.

Today one can go to the Paladin Press Web site (Paladin Press, 2000) to review all the titles in the Action Library. How about the following for your video library?
B.A.D. (video) *A Video Guide to Constructing and Firing Your Own Backyard Artillery Device* by Ed Carson. With this video, an assortment of parts from your local hardware store and a few hours of semi-skilled labor, you too can have your own backyard artillery device. Powered by a few drops of gasoline and a shot of oxygen, it will shoot full beer cans up to 300 yards. For academic study only. Color, approx. 80 min., VHS only. ISBN 087364932X $29.95

One does wonder which academic department might need such a video. A visitor to this site can be linked to the burgeoning number of hacker sites that will show a bright teenager how to snoop out other people’s passwords or how to crash their computers. Not only do these sites tell one how to do it, they provide one with the software to accomplish all this. Here is a selection from a list of programs that can be downloaded from one such site (BlackCode, 2000):

- **FLOODERS** Crash computers and networks by sending huge amounts of information to them.
- **NUKERS OOB** nukers, multi-port nukers, etc. These tools crash computers and networks.
- **TROJANS** These tools give you full access to a victim’s computer if they have a server running.
- **CRACKING** From password crackers, dial account rippers, bios crackers, etc., to password generators, wordlists, etc.
- **ICQ related stuff...** Password stealers, ICQ crashers, etc.
- **MAILBOMBERS** These programs send lots of e-mails to the victim. Some anonymously, others not.
- **SPOOFERS** Programs that let you hide or change your real ip identity on ftp and irc sessions etc.
- **CARDING** Programs that let you fake or counterfeit different credit card numbers.

An enterprising library could construct a lively exhibit on physical and electronic mayhem. One could stock the entire Action Library and set up Internet access to the Web sites that contain such material. Not doing so is a form of censorship; one is refusing to make available material that one knows a number of patrons would find very interesting, and which they might very well put to use. One would hope that no public library would do such a thing, and one knows what sort of outraged response one would get from parents and other adults if such an exhibit were mounted.

Yet there is no denying the complications raised by not providing ready access to such material. The central reason for limiting access is the worry that young people who are perfectly capable of understanding and implementing this material, even more capable than most adults, may lack the sense to realize what harm could result from experiments with
such items. It is exactly the same attitude that used to lead libraries to have restricted areas where only adults were allowed. If you are opposed to such restrictions you call them paternalistic, while if you favor them you call them prudent. But it gets driven home that there is nothing inherently bad or vile about the information in question. In fact, looking at the hacker sites, one may find oneself thinking that one really ought to investigate some of these tools, especially password sniffers and crackers, in order that one may see how they operate and so be aware of what precautions to take in order to better protect one's own passwords. Adults would be aghast and outraged if someone told them that they may not see such material.

But it is not the case that, since one is an adult, one should be allowed access to any material at all. Some people work on classified matters, and while one would love to know what they are doing, it is often recognized that there is no need for one to know, and that others knowing could have unforeseen consequences that might harm their project. In the library and information services profession, medical librarians handle large amounts of information that they do not allow even the most qualified researchers to see unless those researchers can provide explicit grounds for why they should be given access. Every university has a rare book room that invariably requires some sort of special authorization of a patron in order for that person to use certain material.

Once more, the information itself seems to be ethically inert; there is nothing inherently good or bad about the information. All of our ethical concerns turn toward the possible consequences of revealing the information, the possible uses to which the information might be put. Professionals who work in libraries know that this concern can occur at the most basic level. Some libraries have stopped requiring their staff to wear name tags for fear that doing so might provide information to patrons who might go on to harass them. These same libraries then face the perfectly reasonable complaint from patrons that they want the staff to wear name tags, since the tag helps the patrons identify who it was who helped them. Knowing a name enables patrons to call back to ask questions of the staff person who has already worked with them on a topic. It enables them to accurately praise or criticize the service that they received.

Censorship, then, turns out to be fundamentally an exercise in judging what possible consequences might result from providing various data and information, and then deciding which of those consequences are harmful enough that it is better to suppress or restrict access to the information rather than to allow those possible harmful results. It is a judgment not so much about the data or information itself, but about the potency of the data, about the possible uses to which these data might be put by this particular person. Seeing that, we realize that the activity is a complicated balancing act, one that requires weighing competing consid-
orations and coming to a judgment that we recognize perhaps cannot be
infallibly correct but which we seek to make as rationally defensible as
possible. One understands that, in order to avoid such difficult judgments,
it is often simpler and cleaner to announce that no one will be restricted
from any data. But it is not clear that practice can live up to this policy.

**Some Complexities of Privacy**

Libraries frequently claim that one of the reasons that they do not
limit access to, or interfere with the use of, materials by their patrons is
because the library respects the privacy of others. Modern technologies
are applying pressure about whether such claims can be consistently main-
tained. One may go to the site for Net Detective (2000) and read that:

IN A FEW MINUTES YOU CAN . . .
. . . LOCATE old friends and classmates, lost relatives or a long lost
love.
LEARN ALL about friends, enemies, coworkers, your (ex)spouse,
your boss, your new date.
SCREEN your daughter's husband or new boyfriend.
DIG OUT INFORMATION on your mysterious neighbors.
INVESTIGATE your family history, DISCOVER SECRETS about
anyone's past.
FIND THAT GIRL you met in the traffic—through her license plate
number.
SKIP TRACE debtors and hidden assets,
FOLLOW THE TRAIL of skipped renters and dead beat spouses.
VERIFY anyone's employment history, income, and educational back-
ground.
CONDUCT BACKGROUND CHECKS on employees before you hire
them.
TRACK DOWN people who have changed their name, address, e-mail,
or phone number.
FIND OUT addresses, car and property ownership, addresses from
phone numbers.
SEARCH FOR lawsuits, trial transcripts, and court orders.
GET TO KNOW what's in your credit report and what the FBI has on
you.
Learn how to FOLLOW THE PAPER TRAIL almost everyone leaves.

In another place you are told that this program will enable you to:

Locate E-MAILS, PHONE NUMBERS, and STREET ADDRESSES
Get a COPY of your FBI File
FIND DEBTORS and locate HIDDEN ASSETS
Check DRIVING and CRIMINAL RECORDS
Locate old CLASSMATES, missing FAMILY member, or a LONG
LOST LOVE
Do BACKGROUND CHECKS on EMPLOYEES before you hire them
Investigate FAMILY HISTORY, BIRTH RECORDS, DEATH
RECORDS, and SOCIAL SECURITY RECORDS
Discover how UNLISTED PHONE NUMBERS are located
Check out your new or old LOVE INTEREST
Verify your CREDIT REPORTS so you can correct any WRONG info
Track anyone's INTERNET ACTIVITY to see the sites they visit
Explore SECRET WEB SITES that conventional SEARCH ENGINES miss
Discover ways to make UNTRACEABLE PHONE CALLS
Check ADOPTION RECORDS, locate MISSING CHILDREN, or RELATIVES
Dig up INFORMATION on FRIENDS, NEIGHBORS, or BOSS
Discover EMPLOYMENT OPPORTUNITIES from AROUND THE WORLD
Locate TRANSCRIPTS and COURT ORDERS from ALL 50 STATES
CLOAK your E-MAIL so your true ADDRESS can't be discovered
Find out how much ALIMONY your NEIGHBOR is paying
Discover how to CHECK your PHONES for WIRETAPS
PLUS MUCH MORE!!!

A satisfied customer of this product exclaims: “I have been telling my friends about Net Detective. I have also been snooping on my friends, and they don’t even know it. I found out how much alimony and child support my next door neighbor gets, and that my neighbor across the street has some big credit problems. This is AWESOME!!!” One is relieved, seeing the name and city of this user, to note that this person is not one’s neighbor. Given that this person provides name and city, one is tempted to track down this person’s address—perhaps using the program—in order to warn the neighbors.

The product can be downloaded for twenty-five dollars, and so it would be well within the budget of any library to purchase several copies. The program insists that everything that the program does is “perfectly legal” and so a library might set up a terminal or two that patrons might use to probe the information that this program provides to its users.

Even if it is perfectly legal, libraries ought not set up workshops to help patrons learn how to investigate their neighbors in this way. But appeals to privacy will not resolve this question; respecting the privacy of the patron might give the patron free reign to invade the privacy of others. Finally, the claim that one must respect an individual’s privacy is ultimately based on the concern that certain information about the individual could be used by others in harmful ways. The claim is, at base, a claim for the right to practice censorship with regard to such information, giving the classical argument that is usually used to justify censorship. The only difference is that, at present, the justification is widely accepted.

It may be that new technologies, especially the Internet, will relieve libraries of some of the pressures that they have had in the past over issues of censorship. It used to be that libraries were the primary portals to any of these data; libraries were almost the only place where anyone, young or old, could access certain information. Now the portals are mostly electronic. Today, a young (or old) person with a connection to the Web can
access more pornographic, violent, racist, or otherwise vicious material than any library could possibly house. A parent who is worrying about what his or her child is finding in the library is almost surely worrying about the wrong thing. Requests to have libraries remove offensive material may become as infrequent as requests to remove comic books from libraries; it is so easy to get them elsewhere that there is hardly any purpose to worrying anymore about their presence in the library.

**Distinctive Features of Ethical Debates and the Consequences for Libraries**

Ethical concerns have almost always been seen as having a strong practical aspect. Some see this as what makes ethical understanding uniquely different from other areas of knowledge. Unlike most of our scientific judgments, ethical judgments are essentially tied to how we shall act. At least since Aristotle it has been argued that a distinctive feature of our ethical thought is that it involves not just reason but *practical* reason. A large part of contemporary theoretical debate about the foundations of ethics turns on how continuous this practical ethical reasoning is with our reasoning in scientific realms. Some maintain that ethical and scientific reasoning proceed in basically the same ways, but that ethical reasoning simply has a distinctive subject matter. Others argue that ethical reasoning is discontinuous with, different in kind from, the sort of reasoning to be found in our search for truth among factual matters (Darwall et al., 1997, pp. 8-9). These others see differences—i.e., discontinuities in the fact that ethical judgments are aimed at action—that seem to involve the attitude of those making the judgment in integral ways and are essentially contestable. Obligations and values, they say, are not found lying about the universe in the way that stars and trees are. Given that, our mode of knowing them must differ as well.

This theoretical debate touches on library professionals in subtle ways. It is natural to distinguish facts and values. While some philosophers do hold that ethical properties and facts can be investigated in the same way that natural properties and facts can, most do not. The more common view is to deny that statements of value or of obligation provide information about their subject matter; rather they express one's attitude toward one's preferences concerning the matter. And, most distinctively, ethical statements involve the claim that we, and others, *ought* to have such attitudes and preferences in this matter and that we should behave accordingly. This is what makes ethics normative and provides it with its distinctive contrast from the natural sciences.

It is here that information professionals have made substantive decisions. A central theme running through the ALA's *Code of Ethics*, through the *Library Bill of Rights* and its various interpretations, is that library professionals will not take a stand on ethical matters beyond the insistence
that patrons should have equal and open access to whatever resources they desire. An information-professional might correct you were you to state that Chicago is the capital of the state of Illinois, but that same professional apparently will refrain from criticizing your opinion were you to state that sadism is to be encouraged. Notice that making such distinct responses assumes that the two items of belief are radically different in kind: the one is factual information about which a professional can make judgments, the other is not.

This contrast is widely felt by many. It has led some theorists to suggest that ethical notions at base are not features of the world but really result from the social procedures such as agreements and contracts that humans enter into with one another. Such procedures embody our notions of fairness and professionalism. Even if the actual consequences at times may be awkward or even unfortunate, so long as the agreed upon procedures have been followed, there is no cause for complaint.

Among the attractive aspects of such theories is that they can explain how it can be maintained that people have been treated equitably even when the material results for those people are wildly unequal. For example, so long as the balls in a lottery drawing are randomly chosen, no participants can complain that they have been treated unfairly just because someone else won a million dollars while they won nothing. So long as the procedures are followed, resulting inequities in the outcomes do not count as unethical or unfair treatment. Similarly, so long as elections are run cleanly, so long as admissions committees or hiring committees treat all applications alike, the results, no matter how disappointing to some, can be ethically justified.

This sort of procedural characterization of what is ethically relevant is typical for the official statements of most professions, including those of library and informational professionals. The codes of professions lay out professional behavior stating what procedures a professional in that field must follow. An attractive feature of such professional statements is that someone in the field may then defend his or her actions against criticism that the actions led to unfortunate results. The defense is that the stated procedures, the standards of professional behavior, were met. Defense lawyers, for example, are often criticized for enabling a criminal, maybe even a violent criminal, to go free by appealing to some legal technicality in the arrest process. The defense lawyers' response is that their professional obligation is to use every possible legal means of defense on behalf of their client, and that the solution is for the arresting authorities, next time, to observe the technicalities.

These separate concerns raise the more general question of whether, as an information professional, one may do things that an ordinary citizen ought not to do, or not do things that an ordinary citizen would be expected to do. This sometimes gets labeled the "separatist thesis"
The thesis maintains that professionals in a field may at times behave in ways that would be considered wrong for any layperson—i.e., for anyone not a professional in the field. Obvious cases involve physicians cutting into the bodies of patients or giving their patients powerful drugs. Because of the physician's professional role, we allow her or him to do such things, while we would condemn anyone from outside the profession for such actions and would even prevent them from performing them. Another claim commonly made is that professionals may withhold information about another human because of the professional relation that they have with that person. Priests, doctors, lawyers, and others claim a prerogative of confidentiality; they maintain that, because of the special relation that they have with people who use their professional services, they should be allowed to refuse to provide any information about these clients to others. Even in cases where society could legally compel others to reveal what they know about an individual, various professions maintain that, if the individual is one of their clients, they need not do what is morally and legally expected of others.

**The Rights and Rules Mentioned in the ALA Code of Ethics**

There is something of the separatist approach in the ALA Code of Ethics and in the Library Bill of Rights. The central issue that gets raised is whether subscribing to such a code insulates one from complaints that would be recognized as legitimate in most other circumstances. If an adult were to give a ten-year old child a book that provided directions on how to make a home-made explosive device from material that could be bought at the local hardware store, and if that child ended up getting injured in the attempt, society would hold that adult morally responsible for contributing to the child's injuries. People would be even more outraged if it was learned that the child's mother had asked that adult whether her son had borrowed any books, only to be told that it was a private matter between the lender and her son about which she had no right to be told. Such a person would be seen as merely piling deceit on top of providing information to minors that could bring those minors bodily harm.

But now consider the situation where the adult is a professional who subscribes to principle III in the ALA Code of Ethics which says: "We protect each library user's right to privacy and confidentiality with respect to information sought or received and resources consulted, borrowed, acquired or transmitted" (American Library Association, 1995), along with principle V of the Library Bill of Rights, "A person's right to use a library should not be denied or abridged because of origin, age, background, or views" (American Library Association, 1996b). This latter right gets spelled out in considerable detail in the additional Interpretation, entitled *Free Access to Libraries for Minors* where, among other things, it is stated that,
“Librarians and governing bodies should not resort to age restrictions on access to library resources in an effort to avoid actual or anticipated objections from parents or anyone else” (American Library Association, 1991).

The issue raised is not peculiar to the American Library Association or even to professional groups. It touches on one of the deepest divides on ethical matters generally: Do we judge matters to be right or wrong by what rules are followed or by what results are produced?

Giving primacy to following rules has many attractions. Rules provide the demanding call of obligation, they identify something that must be done. In addition, rules tend to be short enough that one can understand them well enough to know when they have been followed and when not. In this way they provide relatively clear norms to follow and something short and specific to which one can appeal when criticized. The problem with results is that it seems practically impossible to identify all the possible relevant results that might follow from an action or proposed policy. And even if one has some idea concerning what results are likely to follow from an action or policy, one still faces the daunting task of evaluating those results, deciding which are beneficial and which are harmful, and finally one must weigh the resulting benefits against the resulting harms before being able to decide whether one has done the right thing.

And yet, attractive as rules are, thinking that the rules that get followed exhaust the ethical content of the situation is an ugly trait that occurs in some of the worst forms of bureaucracy. When rules get disconnected from the consequences that result from following those rules, people can be very badly treated. Insisting that one’s obligation is merely to follow the rules leads one to see one’s ethical life as a life of avoiding the blame of having broken any rules. But in our ethical lives we need to attend not only to the rules, the principles of our professional or personal lives; we also need to be attentive to what effects following those rules may have on those with whom we live. Our sole goal ought not be to be morally blameless; we would also like to contribute to making better the lives of those around us and who share our communities.

Once again technology provides interesting possibilities for weighing just how bureaucratic one may have become. If your ethical approach comes down to asking the staff in the library to behave toward patrons with the same cooperative nonjudgmental attitude that the library’s computer terminals provide, something is missing.

Profession after profession is discussing how much of their activities could, and should, be replaced by computers and their surrounding technologies. Those who teach are being asked what it is that they do in their face-to-face meetings with students in classes that could not be done asynchronously and at a distance. It is a fair complaint that if all that happens in one’s classroom is that one reads from last year’s lecture notes, one might as well put those notes on the Web and let the students sleep in.
More positively, and here some library and information schools have been at the forefront, perhaps one could design online courses that do an even better job than one could do in a traditional university classroom. New technologies provide alternative ways of doing things that have been done the same way for centuries. The field of medicine is facing the very real possibility that, as the genes and proteins that indicate or cause certain diseases are identified, certain long-cherished skills and specialties may disappear, replaced by computer-driven procedures that will more accurately diagnose problems and prescribe even more targeted cures ("Survey of the Human Genome," 2000).

Libraries are making similar self-examinations. Given the increasingly convenient access to reference material and other documents over the Internet, what items does a library need to physically possess? Just as people are questioning whether there is the continuing need for classrooms in which teachers and students meet, one might question whether there is still the need for the substantial physical edifices that most still have in mind when they think of libraries. Such buildings are expensive to build and to maintain; they call for large expenditures on many staff and on the purchase and upkeep of the physical collection maintained within the building. Rather than build their own, members of a community might decide instead to simply subscribe to www.library-online.com (this site is fictitious).

While one may be completely opposed to the suggestion in the previous paragraph, it is a real concern and that concern should be one considered by library professionals to reflectively explore, articulate, and explain to the public the benefits that a real brick and mortar building, staffed with real people who are knowledgeable in the field, has for the community. But this will be a harder case to make if library professionals present themselves as being the absolutely neutral rule-following automatons that their computer terminals are.

And, of course, library professionals should not think of themselves in that way, nor do they. They are inventive, innovative, and deeply involved in seeking to provide material, exhibits, and services that they think will benefit their patrons and the community. Our ethical lives are shaped not just by what we must do, by our obligations, but also by what attracts us, what we find worthwhile in life. St. Augustine of Hippo had argued that the central force that moves us to act is what we love, _Pondus meum amor meus; eo feror quocumque feror_ (My weight is my love, I am borne by it wherever I am borne) (Augustine, 396, Book 13, chap. 9, section 13.9.10). His view was that, if you love the right things, all the rest will follow. His famous moral advice was, _Dilige, et quod vis, fac_ (Love, and do what you will) (Augustine 406-407, p. 2033). But he was assuming that your love was directed toward the appropriate object which, for him, was God. At other times he recognized that our loves are what move us, but that we can love
things we ought not. He agreed that humans choose on the basis of what they love, but he doubted that any humans had the power to decide what it is that they shall love. As a profoundly religious thinker, he concluded that ending up loving the right things is not something within the power of humans themselves to choose; it must, he thought, be the result of divine grace.

Others are not so pessimistic about the ability of humans to shape what they or others come to appreciate, come to love. One must be optimistic if one thinks that one human can teach another (Augustine, consistent with the inexorable logic of his own position, concludes that, strictly speaking, no human can teach another human). This is the aspect of library professionals that makes them, and their libraries, such a central vibrant part of a community's intellectual, social, and moral life. Libraries and their staffs cannot pretend, must not pretend, that they are simply neutral in such regards.

Philosophers have to continually remind themselves that moral matters, ethical matters, are not limited to matters of duty, to obligations. Central to our moral and ethical lives also is what we value, what we think is worthwhile in a human life. Foot (1958) has argued that the promotion of human well-being and the prevention of cruelty provide the material content of our ethical concerns. We have real recognizable results that we are interested in attaining. Merely following certain prescribed rules would be an empty exercise unless doing so fairly reliably led to results that are recognized as in some way bettering matters.

Seeking to make the contrast between obligation and value, another philosopher, David Wiggins, has suggested that we think of our ability to ethically value features of the world as the unique ability that humans have to provide "a kind of attractive highlighting of the landscape of choice" (Darwall, et al., 1997, footnote 91). And here the word "attractive" is meant to be more than cosmetic. The goal is to show some of the choices that are available as desirable, as ones that humans come to see as having features that an attentive human will find attractive to her or him.

This describes a central role of a good library. A library is more than just a utilitarian institution that enables patrons to conveniently check out whatever material the patrons antecedently desire. Libraries do, and should, inculcate those desires. In St. Augustine's terms, libraries seek to develop the loves in their users for topics and materials that are worthwhile. Libraries are not quite the neutral clearinghouses that interpretations of the various codes would sometimes lead one to think.

Simple thought experiments of the kind that have already been mentioned bring this out. Libraries regularly mount exhibits or workshops by means of which library professionals seek to acquaint patrons with topics and materials that library professionals think are worthy of the patrons' interest. These provide one of the best indicators of the values that the
library professionals hold, and which they wish to encourage in others. Here, matters are not perhaps like the lending policy, that is, morally neutral. A library might very well have a copy of the Marquis de Sade’s *Justine,* and the library might even insist that no patron will be forbidden from reading or borrowing the book, but the local library won’t create a colorful exhibit on the literature describing the attractions and pleasures of sadism. One could create an exhibit which would probably fascinate many on Nicholas Saunders, who wrote the book *E for Ecstasy* and whose posthumous work on the spiritual use of psychoactive drugs can be found online (Ecstasy.org). And popular as they might be, a library will resist setting up exhibits displaying the literature that will help junior high school students create home-made explosives or learn how to become computer hackers. No library is going to bedeck the exhibit area by its entry with “The Best of Pornography” or with a display on “The Arguments for Racism.” Why not?

The ALA document, “Access to Electronic Information, Services, and Networks: An Interpretation of the *Library Bill of Rights,*” states:

> Libraries and librarians should not deny or limit access to information available via electronic resources because of its allegedly controversial content or because of the librarian’s personal beliefs or fear of confrontation. Information retrieved or utilized electronically should be considered constitutionally protected unless determined otherwise by a court with appropriate jurisdiction. (American Library Association, 1996a)

It also insists that: “Libraries and librarians should not deny access to information solely on the grounds that it is perceived to lack value.” But, in the final paragraph, the same document states: “The provision of access does not imply sponsorship or endorsement.”

And that is the point. Libraries and librarians do sponsor and endorse some things while they disapprove of and criticize others; unlike many citizens, for example, they disapprove of censorship. Library professionals and the institutions they staff really do have concern for the well-being of their patrons and others in the community, and they seek to minimize the harm that might come to anyone. The exhibits imagined above would almost surely have little benefit and could lead to harmful effects. Libraries favor familiarizing their patrons with material and resources which will make the patrons’ lives healthier, expose the patrons to things of inherent interest and beauty, open up opportunities for investigation and development by the patrons, help patrons see all their fellow citizens in an appreciative light, and ultimately, it is hoped, make our communities better places.

None of the above judgments is neutral. They require substantial choices concerning what is worthwhile, what is beneficial, and what is harmful. These are not matters on which everyone agrees, and libraries would be dissembling to suggest that they do not take stands on these matters.
There are views and programs that libraries do and should promote, and making the choice to endorse some of these necessarily closes off making other choices.

In this regard, libraries are similar to many other institutions in seeking a balance between the neutrality expected of public institutions and the expectation that public institutions will make a positive contribution to the communities they serve. There are published statements of the principles by which public bodies shall abide. But those statements are made against a background where it is assumed that the institution and those who run it have the interests of the patrons and the community at heart. Libraries and their staff have long been adept at developing lively innovative ways to seek to get their patrons, young and old, engaged with the many productive possibilities that there are for humans to pursue. Well-chosen collections of books and selections of magazines along with other materials provide the basis; exhibits and lively programs seek to show library users the attractive aspects of these possibilities. The challenge now is how to do something comparable when the data and information are no longer contained in the packets, such as books, journals, videos, and the like with which we were raised. The Web now gives access to information that used to come contained in the controllable form of books whose authors were often known, whose publishers had reputations, and whose reviews could be checked to be assured of the quality of what the book contained.

ARE RIGHTS ENOUGH?

The discussion of rights takes up a large part of contemporary ethical discussions (Dworkin, 1977), as it has for hundreds of years, and the founding documents of the United States rely heavily on the notion. Besides the rights of life, liberty, and the pursuit of happiness mentioned in the Declaration of Independence, the Bill of Rights in the Constitution mentions the right to peaceably assemble, to keep and bear arms, to be secure against unreasonable searches and seizures, to a speedy and public trial by an impartial jury, and the Ninth Amendment warns that: “The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people” (Bill of Rights, 1791).

The many lawyers involved with the Constitutional Convention were influenced by having read William Blackstone, who had defended the claim that we have an absolute right to life and liberty and that:

The third absolute right, inherent in every Englishman, is that of property: which consists in the free use, enjoyment, and disposal of all his acquisitions, without any control or diminution, save only the laws of the land . . . . So great moreover is the regard of the law for private property, that it will not authorize the least violation of it; no, not even for the general good of the whole community. . . . In vain
may it be urged, that the good of the individual ought to yield to that of the community; ..." (Blackstone, 1899, Book I, chap. 1, p. *139)

But there is an equally strong tradition that complains that such appeals to absolute rights are fictions, attempts to pretend that they are features of the world that exist independently of whether a society agrees to them. In the second article of the French Declaration of the Rights of Man and of the Citizen (1789), the claim was made that: “The aim of all political association is the preservation of the natural and imprescriptible rights of man. These rights are liberty, property, security, and resistance to oppression.” Jeremy Bentham famously complained in his Anarchical Fallacies that “Natural rights is simple nonsense: natural and imprescriptible rights, rhetorical nonsense,—nonsense upon stilts” (in Waldron, 1987, p. 53). It is not that Bentham denied all discussions of rights, but he thought that disconnecting rights from the laws that gave them was to pretend that they could have an existence independent of the society that constituted them. “Right and law are correlative terms: as much so as son and father. . . . A natural right is a son that never had a father” (p. 73).

Bentham is reflecting on the results of the French Revolution, and he sees the language of rights, so central to that event, as “terrorist language” (Waldron, 1987, p. 53). Instead of calling for a careful investigation and weighing of the factors relevant to the judgment at hand, the language of natural rights, Bentham claims (in Waldron, 1987):

require nothing but a hard front, a hard heart and an unblushing countenance. It is from the beginning to the end so much flat assertion: it neither has anything to do with reason nor will endure the mention of it. It lays down as a fundamental inviolable principle whatever is in dispute: admit it, you are an honest fellow, a true patriot; question it, or so much as ask for a proof of it, you are whatever is most odious, sinning equally against truth and against conscience. The strength of this argument is in proportion to the strength of lungs in those who use it. . . . Weak as it is in the character of an argument, it is proportionably strong as an insult and a menace; and indeed, the plain and simple version of it is a menace and nothing else. List yourself under my banner, join in my howl, swallow my nonsense—or you are a tyrant, or a slave, an accomplice of tyrants . . . . (p. 74)

Readers are sometimes shocked by the vehemence of Bentham’s attack on natural rights, but it is worth remembering how shocked people were by the use to which the appeal to rights was put in the French Revolution. And there is no denying the power of the argument contained within Bentham’s vehement attacks. The same argument has been continued by others in less colorful language.

MacIntyre (1984) argued against both Bentham’s principle of utility and against the notion of natural or human rights. MacIntyre complains that the notion of rights is in fact a social invention thatpretends to have
an independent natural existence, where this has no basis in fact. He argues that one sees the implausibility of the claim that rights are naturally existing features applying to all humans when among them are claimed to exist "the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay" in Article 24 of the *Universal Declaration of Human Rights* (1997).

Natural rights are claimed to be naturally occurring, objective phenomena, when they are no such thing. Human wants, of course, occur regularly in us all. As had Bentham, MacIntyre (1984, p. 67) sees a tendency to identify individual wants with natural rights; and, once a want becomes a right, the claim is made that no one may interfere with the wish to fulfill that want whether it is good for one or not.

MacIntyre (1984) sees such an approach to rights as providing a narrow limited view of what a human is. On a rights-based view, humans are treated as egoists whose wants are to be fulfilled. But as MacIntyre stresses, the good for us as humans essentially involves others whom we love, with whom we work, with whom we live. "The egoist is . . . always someone who has made a fundamental mistake about where his own good lies and someone who has thus and to that extent excluded himself from human relationships" (p. 229). MacIntyre argues that those who see morality as little more than obedience to rules that require us not to interfere with others' wants have lost the central vision "of a public good which is prior to and able to be characterized independently of the summing of individual desires and interests" (p. 236).

Opposition to such a narrow view of humans leads MacIntyre to put the concept of a human *practice* at the center of his theory. A human is more than a retention pond of pleasures and pains, desires and fears on which we must not trespass. Being the humans that we are essentially involves what we seek to do in our lives, what efforts we give to which projects, and how well we carry those out. MacIntyre (1984) claims that it is human activity, not human feeling, that leads us to enrich our lives by discovering new ends and even new conceptions of what our ends should be (p. 273).

And this is really the central conclusion that this article would like to press for its relevance to the ethical role of libraries. Yes, of course, libraries provide material for people's entertainment, material that gives them pleasure. But to run a good library is more than to be in the entertainment business. Libraries are staffed by information professionals, not by entertainers. Libraries as institutions play crucial roles in the various projects that people within the community have in their lives. Libraries can suggest and even promote various ends and highlight the means needed to attain those ends; they can assist in mastering the means and achieving the ends. Libraries can note the drawbacks and harmful effects of other ends or means and even refuse to assist on certain projects.
Is this to take an ethical stand on these matters? Yes. Should libraries do this? Of course. Libraries should present ideals, help innovatively with the projects of users and suggest more efficient, more productive, ways to attain the goals that a patron is after. Libraries should not be hesitant to suggest better or more appropriate goals on learning from the patron what the purpose of the project is. This is what libraries do and always have done. The lesson to be drawn from the preceding criticisms of theories of rights and theories of utility is that one does not want to let a narrow view of ethics push one toward a narrow view of libraries.

**The Language of Rights**

The argument here is not that the various codes should be abandoned. It is rather that the codes must be seen against the rich background of activities that make libraries so precious. The code is a leitmotiv, but not the whole orchestral score. We need to understand and express the code within the setting that gives it sense.

Mary Ann Glendon is Learned Hand Professor of Law at Harvard Law School. Glendon (1991) is concerned that “American rights talk is set apart by the way that rights, in our standard formulations, tend to be presented as absolute, individual, and independent of any necessary relation to responsibilities” (p. 12). She points out that the new right of privacy has taken over the absoluteness that used to be attributed to the right of property (p. 40), and she relates the interesting historical fact that the major impetus for creating a legal right of privacy was technological—it was the combination of instant photography along with increasingly rapid modes of communication that led certain famous people to seek legal recourse to prevent photographs of them being sent around the world (p. 49).

Glendon (1991) repeats the concerns expressed by Bentham and MacIntyre: “Unfortunately, American political discourse has become vacuous, hard-edged, and inflexible just when it is called upon to encompass economic, social, and environmental problems of unparalleled difficulty and complexity . . . . When political actors resort to slogans and images rather than information and explanations, they hinder the exercise of citizenship” (pp. 172, 173).

Perhaps Glendon’s diagnosis better illuminates the concern that is being expressed here about discussions of ethics in libraries. As noted, libraries in fact do the very sorts of things that Bentham, MacIntyre, and Glendon think are critical for the ethical lives of our communities. But when library professionals talk about ethics, they typically express rights talk, and they do so in ways that suggest that there are never exceptions.

**Conclusion**

Library professionals are wise to have published codes that outline central concerns of their profession. But they need to be open to the fact
that their ethical lives involve a great deal more than what is found in the articulated rules of the code. Library professionals should make it clear to their patrons, and to the public, that while they are rule-guided, they are not rule-governed. They are teachers, not automatons.

Another way to put the point is that libraries should not see their primary mode of interaction with the public as one in which they cater to the community, but rather one in which they engage the community. Those who teach are being told that they could be much more effective if they integrated what is called "active learning" into their instruction. Students learn best not when they are listening to some professor drone on, but when they have a project, when they try to do something in the field. Libraries have always excelled at this; they are the active learning centers of the community. They are where people go to develop, flesh out, and enrich various projects in their lives. Like any good teacher, while tolerant of a student's interests, the library should be prepared to warn someone of the folly or harmfulness of pursuing certain lines of investigation and should show how the matter could be done better. This may at times meet resistance, but that is usually required for generating warmth and life.

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Information Ethics: The Duty, Privilege and Challenge of Educating Information Professionals

TONI CARBO AND STEPHEN ALMAGNO

ABSTRACT

Questions concerning ethics and how an individual can act ethically when confronted with issues related to libraries, archives, and, more broadly, information have ever been present in our professional lives whenever individuals considered their own principles and actions as related to creating, organizing, managing, using, disseminating, preserving, and providing access to information and documents in all forms. To address the duty, privilege, and challenge of educating librarians, archivists, and other information professionals to understand what ethics is and how to make ethical decisions in their personal lives and work, the School of Information Sciences at the University of Pittsburgh developed a Dean’s Forum on Information Ethics, a course offered twice a year, a Web site, and an information ethics program.

This article describes the history and evolution of information ethics at the University of Pittsburgh and describes the course and its three components: an introduction addressing the reason and need for moral instruction and ethical reflection; the necessary steps for facing up to and resolving a moral dilemma; and the ethical issues in librarianship, information technology, and management. The course and lecture series are considered within the broader context of the school’s curriculum and the multicultural international society.
INTRODUCTION

Questions concerning ethics and how an individual can act ethically when confronted with issues related to libraries, archives, and, more broadly, information, have been ever present in our professional lives whenever individuals considered their own principles and actions as related to creating, organizing, managing, using, disseminating, preserving, and providing access to information and documents in all forms.

Librarians, archivists, and other information professionals often encounter conflicts when their own individual values differ with those of others or with those of the library or of the organization for which they work. While other articles in this issue address examples from individual libraries and organizations, this article is focused on the duty, privilege, and challenge of educating librarians, archivists, and other information professionals to understand what ethics is and how to make ethical decisions in their personal lives and work.

WHY STUDY INFORMATION ETHICS?

In our increasingly complex, multicultural, and information-intensive society, many critical issues related to information access and use are misunderstood, inadequately considered, or even ignored. These issues may involve balancing individual and societal needs (such as in protecting both an individual’s privacy and the public’s right to know); resolving conflicting views about library collection policies between librarians and parents of schoolchildren; resolving disagreements between individual archivists and retention policies concerning electronic records; understanding one’s own view of what is ethical; or many other topics. In a growing number of instances, decisions concerning information access and use are placing information professionals in sensitive, and sometimes vulnerable, positions.

Knowing how to create, find, manage, access, preserve, and use information effectively provides a form of power to the information professional, whether it is through speed of access to needed sources, the ability to hack into a system, or complex skills to find and create new multimedia information resources. Information professionals, as well as those who rely on them to provide a wide array of services to help people work more efficiently, compete with others, or improve the quality of their lives, must recognize and understand that with power comes responsibility. Like those who acquired power from their knowledge of how to split the atom, librarians, archivists, and other information professionals must learn to understand the possible and real consequences of their actions, reflect on the alternative choices they may make, and determine how best to use their power and act responsibly.

Individuals seeking to become professional librarians or archivists, or seeking to work in other types of cultural heritage institutions or
information-related organizations must first learn to develop and hone their own individual sense of ethics, live an ethical life, and be educated about ethical issues in their professional life. In addition, the information professional must learn how—and be ready—to make ethical decisions and take ethical actions (Hammond, Keeney, & Raiffa, 1998).

BACKGROUND AND HISTORY OF INFORMATION ETHICS AT THE SCHOOL OF INFORMATION SCIENCES

Initial Idea

In 1980, when she was executive director of the U.S. National Commission on Libraries and Information Science (NCLIS), Toni Carbo encountered numerous examples of ethical issues related to libraries, archives, and other information-related organizations and companies. She had learned over the previous years while working in libraries and with database producers about the many information policy issues facing decision makers, especially those issues relating to access. These issues included who should have access to what information; how to protect individual privacy, corporate proprietary information, and national security data; the best way to provide equitable access to individuals with disabilities; how to make complex scientific and technical data easily comprehensible by the lay public; along with a wide range of other difficult questions. At NCLIS, as she visited small libraries in rural remote areas, addressed questions of meeting the diverse needs of an increasingly multilingual and multicultural society, learned of archivists’ concerns about saving “America’s memory,” responded to questions concerning archiving of data from land and weather satellites, and tried to help provide library and information services to meet the country’s needs, she quickly learned that the problems were even more complex and challenging. What became increasingly apparent to her was that little was being done to help individuals understand the ethical implications of their actions and how they could behave ethically and make the best decisions.

In 1981, in an “endpoint” article in the American Society for Information Science Bulletin, Carbo asked whether a code of ethics was needed for information professionals. In a response to the article, she learned that ASIS already had a code of ethics, but that it had lain dormant and unpublicized for some time. Others in ASIS were also interested in reviving and updating the code. The ASIS Professionalism Committee undertook this responsibility. The revised draft code was completed in June 1990 (Barnes, 1990). She also approached the Dean of the School of Library and Information Science at Catholic University of America to see if the school would be willing to work with her to develop a course on ethics related to the information society. Because of other priorities at the university, the school was not interested in taking this on, and the idea of a course remained only an idea.
In 1986 when she became Dean of the School of Information Sciences (then the School of Library and Information Science), Carbo was asked by Stephen Almagno about her individual goals for the school. In addition to the three she had identified (pushing for excellence in all the school did, increasing funded research, and developing a high quality continuing education), she added her own personal interest in developing a course on the ethics of information in society (now known as Information Ethics) as an initial step in promoting education, reflection, and action on the ethical issues of the information professions. Almagno offered to help, and together they decided to begin with a lecture series that, it was hoped, would raise awareness of the topic and encourage attention to, reflection on, and action about ethical issues.

Lecture Series

Selecting the first lecturer was a difficult decision for Carbo and Almagno because they believed it was essential to find someone who was widely respected, had outstanding credentials, would attract a good audience, and would present an intelligent and thought-provoking lecture. After considerable discussion, on January 26, 1989, the school hosted its first “SIS Dean’s Forum on Information Ethics.” The Reverend Robert Drinan, S. J. Professor of Law and faculty advisor to the Georgetown Journal of Legal Ethics and former U. S. Representative from Massachusetts, spoke on “The Ethics of Information in Society.” The current information ethics Web site, www.sis.pitt.edu/~ethics, gives a complete listing of the eighteen lecturers and their topics. From Drinan to Martin Walker (then Washington, DC-based bureau chief of The Guardian), and from John Leo, University of Rhode Island (who spoke on Robert Mapplethorpe) to Pamela Samuelson, professor of Law at the University of Pittsburgh (who questioned “Who Owns Information?”) and Robert Park, professor of Physics, University of Maryland (who addressed the “Ethics of Information in Science and Technology”) the forum has been immensely successful. Interested individuals from the larger academic and local community joined SIS faculty and students in an experience which Vice-Provost Baranger described as being “what a university is all about.”

Master’s Level Course

In fall 1990, Carbo and Almagno introduced a team-taught, master’s level course, then called “The Ethics of Information in Society.” The course’s stated purpose was “to educate students about ethical issues in the Information Profession.”

Over the next several years, interest in the course continued to grow as students studying library science (now library and information science), information science, and telecommunications took the course and were joined by students from business, law, psychology, and other majors at the University of Pittsburgh, as well as students from Carnegie Mellon
University. Because of student interest and to accommodate their schedules, the course was offered twice a year, both during the day and in the evening.

Doctoral Students

Several doctoral students have worked with Almagno. A one-time doctoral seminar based on a close reading of Plato's *Republic* has been followed by doctoral students doing both independent research and doctoral dissertations under his direction. Jeffrey Huber, presently on the faculty at Texas Woman's University, editor of the forthcoming *Journal of Gay and Lesbian Studies*, and internationally recognized specialist on information ethics and AIDS, was the first SIS student to write and defend his dissertation on information ethics under the guidance of Almagno. Currently, doctoral candidate, Joyce Li, is writing her dissertation on the subject of "Internet Privacy: A Study of the Center for Democracy and Technology's Influence on Legislation and Opinion, 1995-2000." Carbo chairs her dissertation committee and Almagno is a member of the committee.

Impact on Students

Although most courses have an impact on students' preparation for their careers and often on their individual lives as well, graduates report that the information ethics courses have had a much greater effect on their personal and professional lives than other courses. Over the years since the course was introduced, scores of students have sent unsolicited letters and e-mail (or have spoken directly to Carbo and others) about how the course changed them.

In 1998, SIS graduate and first Information Ethics Fellow, Barbara Rockenbach, wrote an article in the *Journal of Information Ethics* in which she quoted Almagno:

> Much of the evidence that I have of the course's impact is either confidential or anecdotal. Two students, Jeffrey Huber and Leslie Lee, have gone public and allowed me to publish their feelings about the course. Dr. Huber commented: "having had the opportunity to study Information Ethics under the direction of Stephen Almagno has proven to be invaluable. Insights Professor Almagno presented in the classroom and in subsequent discussion continue to provoke ethical consideration in my current role as researcher, practitioner, and educator. Ethical reflection, where the information-knowledge-wisdom continuum is concerned, is no longer a luxury but a necessity."

Leslie Lee, the collection services librarian at Jacob Burns Law Library, wrote:

> Of all my experiences in graduate school, the most enduring is the way Professor Almagno constantly challenged, encouraged, and
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guided his Information Ethics students to love the questions. To me, that is precisely what the course is all about—being open and willing to examine life critically and to appreciate the process of ethical decision-making as much as, if not more than, the decision itself.

And, in 1999, the university’s Vice Chancellor for Student Affairs informed Almagno that, in a student survey conducted by the Vice Chancellor’s office, he had been identified as someone “who has made a significant and positive impact on their lives.”

**Ethics Fund**

In 1996, to recognize and honor Almagno for his twenty-five years of excellence in teaching at the University of Pittsburgh, contributions were received from foundations and individuals, including many former students, and the Information Ethics Fund was established. Its purpose is to support:

- an Information Ethics Fellowship,
- acquisitions of print and non-print library resource materials,
- travel expenses and honoraria for Dean’s Forum Speakers, and
- participation by Almagno and students in information ethics conferences.

**Information Ethics Fellows**

The Information Ethics Fellowship was established in 1996 to help promote and support the information ethics program at SIS. The fellowship is for students interested in information ethics or in pursuing a career in the field of information ethics. The fellowship is funded by donations from the Information Ethics Fund. To apply for the fellowship, the student must be currently enrolled or accepted into Pitt’s SIS master’s or doctoral program. Applications are reviewed by a committee of faculty and an outside expert, and recommendations are made to the dean, who selects the fellows.

Former fellows have been hired by prestigious universities (Yale), highly influential organizations (QVC Inc.), and most of them have already published articles in the *Journal of Information Ethics* (edited by SIS alumnus Robert Hauptman) and other leading journals.

**The Web Site**

Established in 1997, the Web site was created to provide information to the SIS and University of Pittsburgh community as well as incoming students and individuals from around the world interested in information ethics. It is the responsibility of the Information Ethics Fellow to maintain and update the Web site. Currently, with input and cooperation from Capurro (head of the International Center for Information Ethics), Marti Smith (Palmer School of Library and Information Science), Nancy Zimmerman (University of South Carolina, Columbia, College of Library
and Information Science), and Barbara Rockenbach (Yale University), efforts are underway to have the Web site reach an even wider audience.

A Course in Process

In the twenty years since the idea of a course on information ethics was first conceived, many of the issues addressed remain constant (although the circumstances in which they exist have undergone a dramatic revolution), and some issues are new and "hot." The course and the lecture series have, naturally, evolved over time. Initially the course was experimental in every sense. But now, benefiting (in his own words and admission) from the great contributions of Alfino, Pierce, Mason, Stichler, Smith, Hauptman, and especially the thinking of Martha Nussbaum, Almagno sees the course based on three main components. First, he provides an introduction addressing the reason and need for moral instruction and ethical reflection. Next, he tries to teach the necessary steps for facing up to and resolving a moral dilemma. And finally, he looks at ethical issues in librarianship, information technology, and management. And basic to the entire course—as a constantly repeated theme—is the conviction that moral education and ethical reflection is first and foremost directed to the individual and only later is it directed to others. Information ethics has, in our conviction, a place—a vital place—in the curriculum because, in a professional school, the student is constantly involved with the "know-how." And while/when ethical issues may come up in other classes, the student does not have the chance to really look at those issues—or simply responds to them from a "gut level." The present SIS information ethics course strives to combine the "know-how" with the "know-why" and thus is constantly in process.

Interest Beyond the University

In March 1997, Unesco held the first "Info-Ethics: International Conference on Ethical, Legal, and Societal Aspects of Digital Information." Carbo served on the planning committee for the conference and presented a paper on "Mediacy: Knowledge and Skills to Navigate the Information Highway." The proceedings from the conference are published in The International Information and Library Review (1997) and cover three major themes: (1) accessing digital information, (2) preserving digital information and records, and (3) preparing society for the multimedia environment.

Through our SIS efforts, several library associations and other organizations have been interested in and convinced about the importance of information ethics. In recent years, Almagno has spoken to Pittsburgh law librarians (1998), to the Puerto Rican Library Associations at the University of San Juan (1999), and to the 1999 Buffalo meeting of the New York Library Association where his topic was "Information Ethics: Our Profession’s Reluctant Response." In March 2000 he lectured on the "Ethics of Our Profession" at the University of South Carolina, Columbia, Col-
lege of Library and Information Science. And during 2000 and 2001, he is scheduled to deliver a paper (together with Barbara Rockenbach) on "Distance Learning Education: Some of the Unasked and Unanswered Questions" at the Ethics of Electronic Information in the 21st Century symposium in Memphis and to give four major addresses: a lecture in celebration of the commencement of delivering the library science program, with a focus on health sciences librarianship/health information (13 September 2000, Texas Woman's University) at the university’s Houston campus in Texas Medical Center; Long Island, New York, at the LIRRC Ninth Annual Conference on Libraries and the Future (19 October 2000); Saratoga, New York, a day-long presentation on information ethics for the New York Library Association (1 November 2000); and Columbia, South Carolina, the USC Dean's Lecture (30 March 2001).

**Future Plans**

Information ethics is expected to become even more important in the years ahead. Recent articles and news reports about breaks into security systems, viruses, whether access to the Internet should be limited to certain groups such as children and, if so, how, are just a few examples of questions facing information professionals today. Very soon, many students at universities will probably have digital cameras built into chips on their computers, giving them the opportunity to share full motion video with others. Some students are running businesses from their dorm rooms; in public areas, some are viewing materials considered objectionable (or even "obscene") by others. Downloading of music from the Web raises questions of violation of copyright and also of appropriate use of university-provided or corporate-provided networks and other services. Monitoring of employees' uses of the Internet or other information-technology services provided by the employer is becoming commonplace and has been determined to be legal. Questions about these and other practices become more challenging each day.

No other school has followed SIS's lead in integrating four components (a course, lecture series, Web site, and fellows) into an information ethics program, and only a few teach even one course on this important subject. In the future, it is expected that more schools will introduce such a course. Interest in the Web site and in conferences, such as the Unesco and Memphis conferences (The International Information and Library Review, edited by Toni Carbo, will publish the proceedings of EEI21-MEMPHIS-2000), indicate growing international concern about these issues. The authors hope that this interest will result in more library, archival, and information programs developing and teaching courses on information ethics.

SIS plans to continue to teach these courses and to maintain its program and Web site. To date, more than 400 students have taken the courses
and well over 1,000 people have attended the forums. Two forums in 2000 featured Sanford Berman speaking on library catalog access to materials concerning ethnicity, seniors, gays and lesbians, and other groups; Jerry Berman, the executive director of the Center for Democracy and Technology, addressed issues of privacy in the electronic environment. The forum series will continue to seek to address the most challenging issues of the day in the years to come.

Almagno, after thirty years at SIS, will retire in 2002, and Carbo will teach the ethics course. SIS plans to continue with the duty, privilege, and challenge of educating in information ethics in the years ahead.

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The authors wish to acknowledge the many fine students at the School of Information Sciences and from other schools at the University of Pittsburgh and the Pittsburgh community who have taken our courses, participated in ethics lectures, and served as Information Ethics Fellows. We have learned from them as we continue to face the challenges of educating them and encouraging others to address information ethics in their lives and work. We also gratefully acknowledge the several foundations and the many individuals who have supported the development of our information ethics program.

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Global Information Justice: Rights, Responsibilities, and Caring Connections

Martha Smith

ABSTRACT
The goal of global information justice (GIJ) is to conserve nature and to preserve humanity through the creative uses of the technologies of information, knowledge, and memory using the practices of rights, responsibilities, and caring connections. This article presents the concept of global information justice and describes it in three different but complementary ways—as an ethical ideal, as an organizing principle for a model for analysis, and as a direction for policy making. First, as an ethical ideal, GIJ has as its aim the use of new technologies to preserve humanity and to conserve the natural world. The analytic model relates key issues—access, ownership, privacy, security, and community—to each other and to the goal of GIJ. As an approach to policy making, GIJ is presented as the foundation for policy creation, implementation, and the establishment of normative practices. The concept of global information justice is illustrated with articles from the Universal Declaration of Human Rights (UDHR, 1948), with the works of international scholars and advisors meeting in the late 1990s (UNESCO INFOEthics Congresses) and their continuing efforts through UNESCO (United Nations Educational, Social and Cultural Organization), the International Center for Information Ethics (ICIE), and other groups. This presentation can only serve as an introduction to global information justice and to the research agenda and policy needs that will arise as the future unfolds.
INTRODUCTION

The goal of global information justice (GIJ) is to conserve nature and to preserve humanity through the creative uses of the technologies of information, knowledge, and memory (see Figure 1) using the practices of rights, responsibilities, and caring connections.

![Figure 1.](image)

This article presents the concept of global information justice and describes it in three different but complementary ways—as an ethical ideal, as an organizing principle for a model for analysis, and as a direction for policy making. First, as an ethical ideal, GIJ has as its aim the use of new technologies to preserve humanity and to conserve the natural world. The analytic model relates key issues—access, ownership, privacy, security, and community—to each other and to the goal of GIJ. As an approach to policy making, GIJ is presented as the foundation for policy creation, implementation, and the establishment of normative practices. The concept of global information justice is illustrated in several articles from the Universal Declaration of Human Rights (UDHR, 1948) with the works of international scholars and advisors meeting in the late 1990s (Unesco INFOEthics Congresses), and their continuing efforts through Unesco, the International Center for Information Ethics, and other groups. This presentation can only serve as an introduction to global information justice and to the research agenda and policy needs that will arise as the future unfolds.

BACKGROUND

Almost ten years ago in Barbara Moran's Library Trends issue on leadership (Smith, 1992), I discussed the concept of information ethics—"Infoethics for Leaders: Models of Moral Agency in the Information Environment." At the end of that article, I described librarians and other information professionals as ethical selves in the global information environments who would "need to negotiate among competing interests and
to assert their professional expertise in a constructive and forceful manner" (p. 565). In the last decade, information ethics (IE) has grown substantially as a field in applied ethics. One of the most significant characteristics of the area has been its global orientation. From the very beginning, with the 1988 article by Rafael Capurro, in 1996 with a special issue on global information ethics in Science and Engineering Ethics (Bynum & Rogerson, 1996), and most recently with the founding of the International Center for Information Ethics, IE has been an international discipline devoted to guiding information professionals and global policy makers and to informing and empowering citizens of the world.

During this same decade, the emergence of the consumer Internet, with its enormous potential to connect people as well as to pose a threat to personal privacy and human identity, has heightened public awareness. With globalization now a household word as well as a subject of increasing controversy, any notion of global information justice may seem to be an oxymoron or at least a naïve ideal imagined by utopian academics. Yet others would argue that, without consideration of social return as well as financial return, economic growth and continuing prosperity may not be sustainable.

Human rights, another contested issue on the world stage, evokes similar responses of optimism and pessimism. Yet, in 1998, the Universal Declaration of Human Rights was celebrated, and its call for international action reaffirmed. The theme of global information justice runs through the UDHR and can be appreciated in the twenty-first century even more than it was fifty years ago. Privacy, information transfer across borders, free exchange of ideas, protection of intellectual property, and the right to know everything—from one’s own genetic blueprint to someone else’s criminal record—are among the issues that need to be addressed with respect to diverse values and competing interests.

The spirit of global information justice is caught in the Preamble to the UNESCO Constitution (see Figure 2) with its notion that peace must be founded on intellectual and moral solidarity beyond various political and economic conditions.

“Peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and (that) the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.”

Figure 2. From the Preamble to the UNESCO Constitution.
DEFINING GLOBAL INFORMATION JUSTICE

Global information justice, broadly speaking, is the notion that preserving humanity and conserving the natural world must be the controlling focus of new information and communications technologies (see Figure 3). Instead of determining the direction of humanity and nature, new technologies are seen to be in partnership with humanity and nature. In this way, GIJ affirms the UDHR and extends its mandate of protection to nature, animals, soil, water, plants, and potentially to human-made or machine-made entities.

Conserve Nature, Preserve Humanity through the creative uses of Information and the Technologies of Information, Knowledge, and Memory.

Figure 3. Global Information Justice.

In "Information Technology and Technologies of the Self," Rafael Capurro (1996) sets forth this challenge to employ new technologies in order to balance the needs of humanity and the natural world (see Figure 1). Unlike those who assume that technology itself drives and determines humanity and nature, Capurro argues differently in favor of employing various technologies of the self (such as books, automobiles, and radios) balancing them against each other rather than completely subordinating one to the other. Instead of depending upon a "code-oriented morality alone," Capurro, following Foucault, suggests also a "self-oriented morality" (p. 22). He says that, with new technologies, people have the opportunity to be "not simply agents but . . . as individuals and as communities, moral subjects of our actions. We are not an unchangeable 'I' or 'we,' but an intersection of possible choices in a process of becoming, individually and socially, ourselves within a field of linguistic and institutional practices. For example, instead of seeking to master the natural world, humanity can employ technologies to heal and transform the planet for ourselves and for future generations" (pp. 24-25).

OVERVIEW OF THE UNIVERSAL DECLARATION OF HUMAN RIGHTS

The Ideal: Rights, Responsibilities, and Caring Connections

Like the ideals in the UDHR (see Figure 4), the ideal of global information justice (see Figure 5) calls for attitudes and actions that are hard to achieve. Implementation is only possible if individuals, groups, institutions, and nations are able to go beyond law and rights and move to mutual responsibility and caring concern. The practical basis for this affirmation is concern for survival of the planet and of all living beings, including
animals, plants, and potentially sentient machines. While favoring the survival of any particular human, animal, or machine could be questioned, the starting point for this argument is that survival, for a start, is a general good that may be modified in its specifics. Recognizing that a perfect balance cannot be found between conflicting parties and competing interests, the ideal of global information justice seeks to provide ways to negotiate differences in order to move toward workable solutions rather than to declare winners or losers. GIJ enlarges the analytical space for considering claims beyond the legal rights of the favored party. Accepting some measure of social responsibility for all of humanity and nature takes one step beyond entitlement. Caring, concern, and empathy takes another and more bold step toward establishing bonds of "friendship" beyond the more limited notion of reciprocal self-interest (Capurro, 1996, pp. 24-25). Consider a difficult case as an example:

- Exert personal/individual autonomy
- Assure an adequate standard of living
- Own and sell property
- Develop personality through education, work, leisure, and the arts
- Privacy
- Protection of rights to creative and scientific achievements
- Freedom of expression and ideas
- Freedom to change religion, opinions, and nationality
- To marry and found families
- To leave one's country
- Join with others in associations, including trade unions
- Participate in government

Figure 4. Life, Liberty, and Security of Person.

- Rights: Law and Entitlements
- Responsibilities: Duties, Social Responsibility, and Social Conscience
- Caring Connections: Community, Friendships, and Relationships

Figure 5. Aspects of Global Information Justice.

Scenario 1: A group of publishers and other content providers need to convert and manage printed texts for use on the Web. Labor costs in the developing world are far cheaper than in more developed economies, and quality is adequate. Employing the ideal of global information justice, companies would (choose one):

1. abide by the laws of all involved countries;
2. plan an orderly and humane transition from one place to another;
3. assess the impact on the short-term and long-term welfare of the developing countries, their peoples, and their environment and provide tangible support;
4. monitor the working conditions of all countries involved;
5. take top executives to visit all production centers; or
6. all of the above.

The detailing of this scenario should make everyone slightly uncomfortable. From a business perspective, any or all of these choices may seem completely unrealistic. For potentially displaced workers, a plan for an orderly and humane transition may be a poor second to continuing employment. For those concerned about the human welfare of low cost laborers, these attempts at concern may appear to be no more than window dressing for a systemic problem. Raising awareness of top executives of the conditions of workers may seem totally useless. None of these alternatives nor all of them together are entirely satisfactory. It might be tempting to let the market take its course. Would anything significant be lost? Using the principle of global information justice, the answer would be yes. The chance to balance competing interests would be lost. A GIJ solution would call for the well-being of all parties to be considered and not just the privileged few. Consider a second example:

Scenario 2: In opening trade relations with a former adversary, some groups have expressed concern for the disregard of intellectual property rights and others with the lack of environmental standards. There is tension between those who would delay until some workable solutions can be put in place and those who contend that any delay would be harmful to all involved. Concerned parties should (choose one):

1. refuse to participate in trade until the issues are addressed;
2. participate while debating the issues;
3. postpone discussion of the issues until the economy in the trading country improves;
4. recognize that one country cannot force standards upon another; or
5. none of the above.

Again, thoughtful people on all sides of these issues can see how difficult it is to negotiate across borders and with parties with conflicting values. This example suggests the need for a broader approach than is possible when dealing with specific examples. Therefore, an analytical model is needed to describe key issues in relation to each other and to the goals of preserving humanity and nature while respecting technologies and their creators.

**Analytical Model**

One of the best ways to stimulate critical thinking and gain insights for discernment and decision-making is through the use of models. Al-
though models can exclude data and blur perspective, they also can focus attention on key concepts and their relationships. We will use the shape of a star as the model for the themes of global information justice with one theme at each point (see Figure 6).

![Star Diagram](image)

There are a variety of ways that the points could be arranged. If the points are across from each other, they could indicate tensions. Access, for example, can be across from Ownership, Privacy, or Security. Two or more on one side could suggest complementarity. Privacy and Security could be on the same side; Access and Community could also be together. In addition, all of the themes share the interior space of the star, indicating that their issues are overlapping and not easily separated in practice. This is a heuristic model in the sense that it is proposed as exploratory and intended to invite potential contributions to refine it and suggest applications. Competing analyses and applications should be welcomed on the journey to clarify the aims and the scope of global information justice. Here the model will be described in the broader context of the Universal Declaration of Human Rights.

**THE CONTEXT: FREEDOM, JUSTICE, AND PEACE**

The Preamble of the Universal Declaration of Human Rights (see Figure 2) highlights the freedoms affirmed by President Franklin Roosevelt in World War II. All of these—the freedom of speech and of belief and the freedom from want and fear—are related to the uses of these new technologies both for humanity and for the natural world.
The Preamble affirms human dignity as a basic right in its "recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world." It also strongly asserts an aversion to the evil consequences of "disregard and contempt for human rights." These, it continues, "have resulted in barbarous acts which have outraged the conscience of mankind." Therefore, its primary declaration is in "the advent of a world in which human beings shall enjoy freedom of speech and belief and freedom from fear and want has been proclaimed as the highest aspiration of the common people." As a result, the United Nations pledges itself to "the promotion of universal respect for and observance of human rights and fundamental freedoms." Thus, the General Assembly sets forth the articles to foster "a common understanding of these rights and freedoms." The following discussion will detail many of these issues in relation to the five major themes of global information justice.

**MAJOR THEMES: ACCESS, OWNERSHIP, PRIVACY, SECURITY, AND COMMUNITY**

In seeking justice in the international information environment, conflicting values and competing interests are a given. These conflicts are well illustrated by tensions, for example, between the publics' need to have access to timely information and the rights of those who gather data and create interfaces to protect their proprietary products. Also, privacy rights are bound to conflict at times with the interests of others to have access to personal information whether for public health purposes or to evaluate an individual for a job or bank loan. Secure and accurate databases promote a stable community to the extent that such security does not thwart reasonable access. These intertwining issues confront ordinary working people as well as the leaders of government and industry. The stakes for these parties, however, are often at odds. Tensions among stakeholders shape decision-making and policy creation. In most cases, resolution is not a simple matter of choosing between the right and the wrong but more of prioritizing or ordering commitments to stakeholders and providing for those disadvantaged by a specific decision or policy. With such hard choices in mind, the various articles of the UDHR will be examined (see Figure 7).

- Access (Access and Freedom of Expression—Article 19)
- Ownership (General Property and Intellectual Property Rights—Articles 17 and 27)
- Privacy (Articles 3 and 12)
- Security (Articles 17 and 27)
- Community (Human Dignity and the Rights of Human Development, including education—Articles 22, 26, and 27)

Figure 7. Key Global Information Justice Themes in the UDHR.
Access—Article 19

“Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive, and impart information and ideas through any media and regardless of frontiers.” Without access to information, regardless of the delivery medium or the intervening borders, it would be difficult to assure freedom of opinion and expression. Likewise, freedom of speech and of belief flows from access. Access is also the foundation for defending the right to read and for resisting efforts at censorship.

Access is often paired with equity in discussions of the digital divide when access is denied or subverted for people who do not have the money or the skills to use new technologies for educational and employment purposes. An extreme case for access might involve promoting public policies to support free computers so that more people can participate in building an information democracy.

In the international arena, assuring access is seen as one way to equalize the fortunes of the information poor with the information rich in order to move beyond the restrictions of ideological and geographical barriers. The other side of this coin is the danger of eliminating native cultures, languages, and identities in the rush to conform to a global standard. To assure intellectual freedom to impart ideas across boundaries, there is the challenge of conflicting ideas colliding and creating conflicts that would be difficult to resolve. In this sense, intellectual freedom may become a narrow street where crashes can happen and often will. Only mutual respect for diversity and tolerance for pluralism can safeguard peace when these freedoms are exercised around the globe.

Ownership—Intellectual Property Rights—
Articles 17 and 27

Article 17.1

“Everyone has the right to own property alone as well as in association with others.”

Article 17.2

“No one shall be arbitrarily deprived of his property.”

Article 27.2

“Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.”

The core information right affirmed by these articles is the protection of intellectual property with the sub-theme of social benefit. Western capitalistic countries take individual property rights very seriously, but this is not a universal value. Even in the West, some people with easy access to digital information, such as music on the Internet, are challenging
traditional notions of who owns what. In a world of extreme inequalities, particularly when the technological resources of the advanced economies are contrasted with resources in developing countries, the rights to own and control both real and intellectual properties may not always be in the best interests of society. If one takes the side of the noble hacker, who declares that information must be free or freed if necessary, then it is possible to urge loosening the bonds that have limited access to certain intellectual properties. For example, could more pervasive use of educational resources, such as magazines or software, be justified to improve the education of the populace? To whom is “fair use” really fair and is it a hindrance to learning? Would there be some better way to compensate authors and publishers? To take another step, some would argue that it is impossible to stop the free flow of information in a digital age, so we might as well find ways to move beyond concepts such as copyright and patents.

The tensions here between access and ownership are not adequately addressed by legal systems. In international disputes over the distribution of videos, software, or ideas for products and services, there may be conflicting legal claims, complex issues of trade, and matters of defense and national security to be considered. In addition, it may not be possible to discover, prove, or enforce the claims of original owner. While a reasonable reward may be due, it may not always be received. Thus, in affirming this article of the UDHR, the dimensions of mutual responsibility and caring concern may be more useful to the long-term discussion. Similarly, on issues of privacy and confidentiality, there may be a firmer ground established if principles of mutual respect and responsibility—e.g., for protection of genetic information—govern legal deliberations without using the law to punish after the fact when serious damage to selves and societies is already done.

**Privacy—Personal Privacy, Confidentiality, and Human Identity—Articles 3 and 12**

*Article 3*
“Everyone has the right to life, liberty, and security of person.”

*Article 12*
“No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence . . . . Everyone has the right to the protection of the law against such interference or attacks.”

Articles 3 and 12 assert that laws should protect privacy and, by implication, punish those who interfere or attack the sphere of personal privacy, and yet it may be more appealing for some to risk legal remedies than to take their chances with the court of public opinion. Some companies that tried to sell extensive personal profiles of consumers without permission have found themselves quickly out of public favor. At the same
time, many consumers seem glad to trade personal information to join a
Web group or to enter a contest. These are complex issues that cannot be
treated adequately here. However, this might be a good time to explore
how laws may be complemented by other pressures when the universe is
wired enough to monitor public perception and the opinion of businesses
as well as of individuals.

**Security — Accuracy and Integrity
of Systems and Data**

Security for information and information systems enables the build-
ing of trust that is essential to the successful delivery of services and for
the protection of privacy, of access, and of property rights. Cybercrimes
and mischief-making threaten the stability of public and private interests.
Destructive hacking, vandalism, and denial of service undermines whole
systems and vital societal functions.

The need to ensure security and to keep ahead of forces that would
compromise integrity may in the future require more and more invest-
ment of financial and human resources. As in the case of threats to pri-
vacy, security is more a matter of prevention than of cure. Damage done
by viruses or by theft of records or proprietary information is very hard to
undo. Similarly, the best approach may be to seek to address the needs of
conflicting parties so that the attraction of compromising security is di-
minished. Again, as with privacy, seeking social consensus rather than le-
gal remedies may be the most effective approach. Fire walls, encryption
technology, and government regulation may discourage encroachments
but inequities of access and resources may aggravate competing or disad-
vantaged parties to risk sanction in order to free captive knowledge. Again
there is the need to negotiate among all potential stakeholders. Finally,
cultivating community and striving for tolerance and mutual regard across
cultures and regions, although seemingly idealistic, may be the most prac-
tical approach to security.

**Community: Education, Culture, and Human
Personality Development — Articles 26, 27, and 28**

**Article 26**

1. Everyone has the right to education . . .
2. Education shall be directed to the full development of the human
personality and to the strengthening of respect for human rights and
fundamental freedoms. It shall promote understanding, tolerance, and
friendship among all nations, racial or religious groups, and shall fur-
ther the activities of the United Nations for the maintenance of peace.”

**Article 27**

1. Everyone has the right freely to participate in the cultural life of the
community, to enjoy the arts and to share in scientific advancement and its benefits.

2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author."

Article 28

"Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized."

These articles affirm the importance of both individual development and preserving diverse social groups. Education that fosters human personality is necessary for the individual to be able to participate in the cultural, social, and scientific life of the community. Yet education dominated by commercial interests or by the English language may threaten vulnerable local languages and cultures. The right to education and the freedom to learn should go together with education for social responsibility and caring connections in the international quest for peace.

Building community in the global information environment is sometimes associated with information democracy. But the idea of information democracy, like the digital divide, is a term that suggests noble aims but may conceal a subtle elitist utilitarianism that is self-serving for a small powerful minority.

FROM THE MODEL TO POLICY MAKING

Echoing these five themes, recent discussions in Unesco forums and in professional and scholarly arenas illustrate that securing rights is best accomplished when conflicting parties assume mutual responsibilities for the common good. Decision-making (as a solution to a specific problem) involves prior analysis and discernment and finally ends in reflection and reshaping for the next challenge. Policy making (as a set of practices to approach a general or specific issue) uses these same procedures on a larger scale. The aim of GIJ in both cases is to achieve understanding and guide actions while respecting rights, encouraging responsibility, and promoting caring connections. GIJ serves as a goal toward which stakeholders with conflicting interest can strive. As a framework for policy making, GIJ may be a way to put ideals into practice even with tentative trial solutions. Firm policies may then grow from experience.

For example, in a Unesco group, loosening copyright and other intellectual property restrictions for developing countries was proposed. If such a recommendation was tried, it would likely only be as a tentative experiment. Though an experiment, if it works well, it might be tried again.

UNESCO INITIATIVES: GLOBAL INFORMATION JUSTICE FOR POLICY MAKING

UNESCO, through its instrumentalities, is more concerned with
responsibility and caring connections than with governance. Although UNESCO seeks to influence member states, it does not exert governing or enforcement authority. Therefore, persuasion and consensus building are its primary tools. Like the UDHR, the words of UNESCO may seem to be weak weapons when up against corporate capitalism, environmental degradation, and the chaos of war and poverty. However, in the long run, words may be able to exert the force of conscience on a wired planet where conflicts may not be amenable to conflicting value systems and competing laws and armies.

Through the UNESCO WEBWORLD site, the Communications, Information, and Informatics (CII) division is able to inform and promote its projects related to legal and ethical issues (see Figure 8). In addition to the CII initiatives, UNESCO sponsors the World Commission on the Ethics of Scientific Knowledge and Technology (see Figure 9). UNESCO also sponsors the International Bioethics Committee (Figure 10) with its Universal Declaration on the Human Genome and Human Rights (see Figure 11).

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**Communications, Information, and Informatics**

- Infoethics
- Cyberspace Law
- The Unesco Observatory on the Information Society
- Management of Social Transformation (MOST)

Figure 8. UNESCO Webworld.

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- Fresh Water
- Energy
- Information Society: The development of an information society has considerable educational, scientific, and cultural implications, notably on account of the impact of images on the written word. Technological progress, the globalization of information, the proliferation of information sources and competition between them may help to sustain democratic governance, but are nevertheless instrumental in making societies more fragile... necessary to examine:
  1. Flow of information both in writing and via images...
  2. The mental representations brought into play...
  3. The social significance of the communications practices to which technological practices have given rise...
  4. Also necessary to strengthen the social bonds which have often been severed in the megacities by the development of the new communications technologies.

Figure 9. The World Commission on the Ethics of Scientific Knowledge and Technology; Created in October-November, 1997; Twenty-Ninth UNESCO General Conference.
Admittedly, bioethics has developed in a context in which scientific and technological progress is being widely called into question as an intrinsic source of good. Nevertheless, there is a need to reconcile this concern with the imperative of freedom of research. Bioethics not only mirrors the preoccupations of a world seeking to strike a balance between nature and development, achieve harmony between individuals and society and safeguard the human species, but is also the expression of the great expectations raised by science. Today, the bioethics movement transcends borders since the concerns it expresses inevitably take on an international dimension.

Figure 10. Ethics of Life.

From the Introduction

Recognizing that research on the human genome and the resulting applications open up vast prospects for progress in improving the health of individuals and of humankind as a whole, but emphasizing that such research should fully respect human dignity, freedom, and human rights, as well as the prohibition of all forms of discrimination based on genetic characteristics . . . (italics in original).

Figure 11. Universal Declaration on the Human Genome (Draft).

INFOethics Congresses

In the first two Congresses and in the third planned for November 2000 (see Figure 12), access was the major focus. On a global scale, the challenges of access require both technical and political barriers to be removed. When access rights are paired with human rights, then basic human dignity is compromised if access is denied. The recommendations of the 1997 Congress (see Figure 13) also strongly supported education as a way to raise public awareness and to ready particularly non-English speaking peoples for a multimedia future (see Figure 14).

Before and after Congresses one and two, participants and others were able to debate the issues through a virtual forum on the Web. These Web sites continue to be useful. In addition, after the second Congress, an active participant, Rafael Capurro, created a Web site (The International Center for Information Ethics—ICIE) to continue the discussion and to gather resources for future meetings. The International Center for Information Ethics is now moving beyond cyberspace to find an institutional home in the United States through legal incorporation as a non-profit entity and consequently holding face-to-face events in real time. These and other follow-up activities continue. The work of the roundtables at the 1998 Congress group easily around the five key themes of global information justice (see Figure 15).
Ownership: Who owns the Code? Personal information?
Privacy: Can privacy be protected? Discrimination avoided?
Security: Can systems be secured?
Community: Enhance ties without sacrificing personality development and the natural world.

Figure 12. Bioinfoethics—Genetic Information Ethics.

- Give Net access to poor countries
- Create country-specific information centers in info poor countries
- Support a World Information Ethos
- Promote public awareness
- Assess information resources and needs of poor countries
- Promote the economic interests of non-English-speaking countries
- Include information ethics in curricula
- Encourage decentralized as well as centralized international activities

Figure 13. Recommendations from the First Congress 1997.

- Theme A: Accessing Digital Information
- Theme B: Preserving Digital Information and Records
- Theme C: Preparing our Societies for the Multi-media Environment

Figure 14. Themes of the First Congress.

| Access and Expression | Roundtable 1: Information in the public domain; inequality of access, criminal abuse of public access |
| Ownership including Intellectual Property | Roundtable 2: Multilingualism, diffusion of diverse cultures, reduce the dominance of English |
| Privacy and Confidentiality | Roundtable 3: Privacy in the international agenda |
| Security | Roundtable 4: Proprietary rights versus public access; Propriety rights of indigenous rights |
| Community including Education | Roundtable 5: Information Literacy—educating teacher and children, concerns for distance learning |
| | Roundtable 6: Social, economic, and multicultural responsibilities; global governance, social exclusion (the digital divide); call for consensus building with civic, industry, government, and information profession leadership |

Figure 15. Recommendations from the First Congress 1997.
Major Themes of the UNESCO INFOethics 1998 Roundtables in Relation to Global Information Justice

Since the first Congress in 1997, there has been enormous growth of the Web and its communications potential. The need for a global information infrastructure that fosters multilingual and multicultural exchange is keenly recognized in both the for-profit and the non-profit sectors. Handheld and wearable devices connected to wireless networks hold much promise for access. Yet the dangers of homogenizing world cultures still exist.

The International Center for Information Ethics is now moving beyond cyberspace to find an institutional home in the United States through legal incorporation as a non-profit entity and consequently holding face-to-face events in real time. Another interest of UNESCO has been in the ethics of life and a new area of applied ethics, bioinfoethics.

Building Policy Frameworks for Bioinfoethics

A sampling from various policy statements suggests the convergence of themes around the uses of information and knowledge in the natural and the man-made world. Nature and humanity both depend on the free flow of scientific knowledge and its responsible use.

Conclusion

As an overarching idea, global information justice has the potential to join conflicting interests and guide the actions of both the more and the less privileged. Take, for example, the conflict between individual privacy and public access to information. If law, contracts, or entitlements are employed, then the party with the dominant right usually prevails with some loss to the other parties involved. If the principle of maximum happiness is applied, then the larger number or the stronger interests will win. Often this means the group trumps the individual, thus compromising the rights of the individual. If, on the other hand, the moral imperative of right action is followed, then either privacy or access must be chosen as the foremost value. In this case, if one is chosen, the value of the other is lost. Although these examples are simplistic, they do illustrate that another approach may be needed to address complex contemporary problems. Yet the values represented in these three examples are well established in Western tradition and are worthy of inclusion in the model of global information justice.

GIJ assumes that cultural differences shape the ways that various people relate to information and its role in society. Nevertheless, GIJ also posits the ideals of the Universal Declaration of Human Rights as worthy goals in moving toward a practical international consensus on issues such as intellectual property rights. GIJ accepts the claims of conflicting local and national legal systems but calls on all parties to move beyond law to pro-
mote relationships of sharing and mutual responsibilities for the natural world and for human welfare.

In the future, it is possible that the fields of medicine, business, and environmental ethics may find common ground in what could be described as bioinformation ethics or bioinfoethics, uniting concerns for biological systems and information systems. Some questions that might be addressed within the combined framework include:

- Who owns the information that empowers medical choices?
- Who can have access to accurate information about the environment?
- Who decides if profit always rules in marketing products that may be unsafe to humans or toxic to the natural world?
- Is the quest for information democracy and bridging the digital divide an advantage for the disadvantaged or another ploy of the elite powerbrokers?
- Do the needs of the global information environment trump individual rights of privacy?
- Do terrorists' threats to cripple the international human and nature-based infrastructure justify government surveillance?
- Can cyberspace be free and safe at the same time?
- Do children require special treatment on the Internet? Is filtering a solution?
- Should there be any controls exerted on hate speech and using electronic communications to incite violence?

SUGGESTIONS FOR FURTHER RESEARCH

Limitations of the Present Study

Whenever a new concept is described, certain things are inevitably left in while others are left out. In the case of global information justice, the emphasis here has been on the broad outlines of the more abstract aspects of the concept. GIJ as an ideal, as the focus for the analytical model, as the driving goal for decision-making models, and as a foundation for building policy introduces the notion that many of the puzzles and problems raised by new technologies can be approached with a unified ethical framework. Besides the shortcomings of a brief abstract overview with its macro rather than micro perspective, the limitations of this presentation are many. The most obvious ones are related to any analysis of a new field of study in the midst of constant change. It is hard to imagine the challenges of the future with unexpected configurations of technological innovations and unanticipated political and social settings. For example, the terminology and the models used here are experimental and tentative. However, terminology can be redefined and models can be reshaped. These terms and concepts are somewhat arbitrary as are the political and philosophical assumptions that underpin the basic premises. For example,
consider the artificial distinctions between the terms nature, humanity, and technology. Humanity is part of nature; technology springs from humanity activity in the natural world. With machines becoming more and more intelligent, what does it mean to be alive, to live? Is it based on chemistry or consciousness? How distinct from nature can humanity be? Is the environment synonymous with nature? How separate is technology from humanity and nature?

This introductory presentation has not been a discussion of the historical, philosophical, and ethical traditions upon which these ideas are based. For the most part, the major Western utilitarian and deontological traditions and their elaborations in contemporary applied ethics (Rawls, 1971) provide the foundations for the ideal of GIJ and the analytic model. The UNESCO initiatives are also grounded in Western traditions although they seek to be open to other traditions and cultures.

Little quarrel is made here, although it could be, with mainstream Western political thought with its bias in favor of democratic capitalistic systems and the value placed on private property and individual independence and autonomy. However, the Universal Declaration of Human Rights and the UNESCO statement challenge some of these tenets. To be truly global, non-Western, communitarian, or other perspectives will deserve further attention.

It was also not possible to discuss in depth the rich literature that has grown in the last decade in medical (Fletcher, 1965), environmental (Leopold, 1987; Nash, 1988), and computer ethics (Johnson, 1985) as these contributions relate to information ethics (Hauptman, 1988; Mitcham, 1995; Smith, 1997) and to GIJ issues, such as the dominance of English on the Web or the problem of hate speech.

The Research Agenda

However, the research agenda for further study is promising. How will issues of global biological information justice emerge out of the work of, and the public response to, the Human Genome Project? Using the concepts and models presented here, it would be possible to organize deliberations about access, ownership, and other issues in defining another new area of applied ethics—i.e., justice.

Other topics would include the continuing work of UNESCO through its various programs. For example, the UNESCO INFOethics Congresses and other similar meetings will likely increase and would be a useful way to track GIJ issues over a longer period of time.

Finally, it is likely that, in the next decade, the ethical challenges discussed in this presentation will become more and more prominent in public as well as academic and policy discourse. This move toward consumer information ethics, paralleling similar movement in medical, environmental, and business ethics will be worth analysis and application.
Human freedom, individual and cultural identities, world peace, and even planetary survival may be at stake. The idea of global information justice may be a guide toward advantageous ends for all.

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