Introduction

THOMAS G. MCFADDEN AND THEODORE J. HOSTETLER

IN RECENT YEARS, HIGHER EDUCATION and, in particular, undergraduate teaching, has been the subject of intensive, and often hostile, scrutiny by critics of all kinds: journalists, professors, legislators, parents, and even students. A college education today, argue these observers, costs more and delivers less than at any time in recent memory.[1] Undergraduates are ill-prepared to study, think, and work when they enter college or the university, and the resulting educational experience does not seem to make much of an impression on them. Johnny (and Mary) still can't read, write, think, or even pay attention. One popular commentator on this scene concludes that the modern university is:

> distinguished by costs that are zooming out of control; curriculums that look like they were designed by a game show host; nonexistent advising programs; lectures of droning, mind-numbing dullness often to 1,000 or more semi-anonymous undergraduates herded into dilapidated, ill-lighted lecture halls; teaching assistants who can't speak understandable English; and the product of this all, a generation of expensively credentialed college graduates who might not be able to locate England on a map. (Sykes, 1988, p. 4)

With varying degrees of balance and politeness, other writers tell the same tale.[2]

Leaving aside the political controversies surrounding this debate, most critics agree on at least one piece of the puzzle: the retreat of the professoriate from teaching. In his influential Carnegie Foundation report on

Thomas G. McFadden, Cline Library, Box 6022, Northern Arizona University, Flagstaff, AZ 86011-6022
Theodore J. Hostetler, Lipscomb Library, Randolph-Macon Woman's College, Lynchburg, VA 24503-1526

the issues, Boyer (1990) remarked that, in just a few decades, priorities in American higher education have become significantly realigned. The focus at many of the nation's colleges and universities has shifted from undergraduate education to the professoriate, from general to specialized education, and from loyalty to the campus to loyalty to the profession (p. 13).³

Have college and university libraries managed to escape this realignment? Do we remain closely and personally involved with undergraduates and their problems, or have we withdrawn to other concerns and clients, leaving these students to shift for themselves? In other words, are college and university librarians guilty of flight from the reference desk? It is the belief and experience of the editors of this issue of *Library Trends* that this has often been the case, both in practice and in theory, in many academic libraries.⁴ Perhaps this is why the library has ceased to be a factor in the academic lives of many undergraduates, whatever our attitudes and strategies might be otherwise. Thus Boyer (1987), in his earlier work for the Carnegie Foundation on college life, found that the library is viewed by most undergraduates as simply a quiet place to study (pp. 160-61).

How then to bring undergraduates, faculty, and the library back together as part of a common educational and intellectual effort? Or, as Branscomb (1940) queried a half-century ago: "[S]hould the library play a fundamentally more important role in undergraduate education than it does in most institutions, and if so, what is that role" (p. 55)? This, in effect, was the question put to the contributors to this issue of *Library Trends*. Their responses, consistently thoughtful and imaginative, reveal a core of themes and concerns which any answer to this question must accommodate.

One such thread, appearing in various guises in the essays by Engle, Farber, Gowler, Hardesty, and Kohl is that of the library itself as an educative institution. This is what Branscomb (1940) meant when he remarked that the library could no longer remain a collateral adjunct to the main business of the college or university but must be regarded as having an educational program and role of its own (pp. 8-10).⁵ It is not too much to think of the library as a teacher, instructive by virtue of its physical and conceptual organization, by the arrangement of resources and materials, and by the way in which physical and intellectual resources interact with one another. This is partly what Kohl means when he suggests that a library should be organized in such a way that independent use is possible; it is what Hardesty is describing in the essential and full partnership between classroom faculty and librarians in the educational enterprise, and it is what Gowler intends when he characterizes a library, its users, and its resources—taken all together—as a community of learners. ⁶ Understood in this way, as Kohl points out, the totality of a library's

programs and services can be viewed as a curriculum. If this is true, then there are clear implications for the library's role in the institutional definition and assessment of educational outcomes.

If the library is itself an educative institution, and therefore at once a part of the teaching enterprise yet distinct from the classroom, how does this happen? It seems clear that the sense in which a library can be instructive is broader than the traditional understanding of bibliographic instruction. Nevertheless, most college or university libraries still devote substantial time and resources to teaching in this sense—i.e., orientation tours, introductory classes, term paper workshops, OPAC instruction, in-class presentations, and library research classes. The justification often provided for much of this effort is that it will be repaid by creating empowered library users—students and faculty capable of functioning independently (for most purposes) in the library. The question of the self-sufficient user, and in general the purpose and future of bibliographic instruction programs, is addressed in various ways in this issue of *Library Trends* by Engle, Farber, Hardesty, Kohl, Meltzer et al., and Tiefel.

Kohl argues that the primary public service goal of academic libraries must be to educate independent library users. Moreover, he suggests, the standard organization and administration of bibliographic instruction must change in important ways before this goal can be realized. But what then of Farber's teachable moment? For Farber, it is fair to say, the crux of bibliographic instruction (however it occurs) is the encounter between a trained mind and an untrained mind on a matter of specific intellectual concern for both. The resulting synergy produces a particular kind of enlightenment for (at least) the student: a clarification of concepts, a sharper understanding of distinctions, a more or less well-defined strategy for proceeding with the investigation, and some appreciation of the relevant information resources available. This is the essence of what Blandy and Libutti name the "apprentice-journeyman-master" relationship in their article. The problem with the trend toward what Farber calls "disintermediation" is that the teachable moment may occur at any time in the student's pursuit and in quite unexpected ways and contexts. In fact, recognizing when the moment has occurred is as much a part of public service as the actual reference process that follows. Reference-by-appointment, especially for undergraduates, may not be the most appropriate response to this need.[7]

The question of the role and future of library user education leads directly to a cluster of issues and problems treated by nearly all of the contributors to this issue of *Library Trends*: literacy, critical thinking, reading, and technology.[8] The question of how and when any particular kind of library service is most appropriate depends very much on the intellectual and conceptual abilities, and associated background knowledge (if any), that our students bring with them to the library and their

assignments. Moreover, the rapid proliferation of a variety of complex and sophisticated electronic information retrieval resources (including, perhaps most especially, OPACs) in most college and university libraries raises important questions about the intelligibility and utility of these resources for many undergraduates. What kind of intellectual, conceptual, and educational framework does the typical undergraduate bring to the library within which to interpret and understand these sophisticated information resources? The answer is obvious to anyone who works daily with this cohort. The concepts of evidence, of authority, of reasoned thought and narrative—and of how these are exemplified in the resources of a library and can be intellectually exploited—are all quite foreign to a very substantial number of undergraduates. In fact, higher-order conceptual skills of any kind are uncommon for many of our students. Botstein (1990) has called this "damaged literacy." He explains: "The actual command of the spoken and written word is insufficient to grasp, much less command, the realities in which we live. Even the literacy that permits the privileged in our society to graduate from high school and college is too compromised in these terms to be called a high order of literacy" (p. 57).

Ignorance has proved to be more stubborn than anyone expected. To this extent, undergraduates come to the library ill-prepared not merely for the relatively prosaic task of using, say, printed indexes and reference books, but even to think clearly about what they are doing at all.[9]

This unhappy situation brings into sharp focus the connections among reading, literacy, and critical thinking which occupy several contributors, most notably Blandy and Libutti, Deekle, Engle, Gowler, Hubbard, and MacAdam. The issues are complex: What is the role of reading print texts in constructing advanced literacy? What is the role of electronic media in promoting or hindering the development of analytical skills? How can the library encourage reading and literacy and hence the acquisition of higher-level conceptual skills? More generally, what is the contribution of the library in providing a liberal education to undergraduates?[10]

The critical thinking (CT) movement in American education is not a new idea. Many of the characteristics of CT that appear in definitions of the process sound rather like what the Yale reports of 1828 described as the discipline of the mind (as distinguished from the furniture of the mind).[11] This theme, that CT is a certain habit of mind and that this habit of mind is distinct from, but closely related to, that which is thought about, recurs in virtually every contemporary discussion of CT and how it is to be taught in the classroom (if, indeed, it can be taught at all).[12] What is new to the modern discussion is the controversy surrounding the contribution that the print culture uniquely makes to critical thinking and literacy—and the harm that electronic formats may, or may not, cause to the development of critical thinking and literacy. These questions are explored here chiefly by Deekle and MacAdam and in related ways by Engle and Hubbard.

Depending on the generation and predisposition of the critic, the villain in this drama may variously be television, video games, computers, multimedia, or the Internet. Hypertext has been called the information technology of the decade. Certain Internet access programs, such as the World Wide Web and Mosaic, are being touted by many as the killer applications in this environment, as the hyptertextualization of the Internet. Gorman (1994) has named these enthusiasts technovandals.   He illustrates their point of view in a passage from a California State University planning document:

> learners increasingly can be free to determine their own learning paths divorced from the sequential, linear, directed flow of printed text, or the weight of authority. Responsibility for collecting, organizing, and analyzing information can be shifted from the provider to the end user. In the learning environment which is student centered and controlled, learning becomes less structured and more associative, intuitive, dynamic, and potentially more creative. (p. 21)

Gorman comments, with evident sadness, on this vision:

> I read these words on the 37th anniversary of the day that I first worked in a library. They did more to illuminate the thinking and motives of those who are dedicated to destroying academic libraries than anything I have ever heard or read. Students, teachers, and all those interested in education and learning would do well to heed their warning and understand their implications for education and society. These are people to whom the sustained reading of linear texts—the culture of the book—is anathema. (p. 21)[13]

This is not merely the disgruntled perspective of a retrograde humanist. Gelernter (1994), professor of computer science at Yale University, contends that, in practice, computers make our worst educational nightmares come true:

> While we bemoan the decline of literacy, computers discount words in favor of pictures and pictures in favor of video. While we fret about the decreasing cogency of public debate, computers dismiss linear argument and promote fast, shallow romps across the information landscape. Hypermedia, multimedia's comrade in the struggle for a brave new classroom, is just as troubling. It's a way of presenting documents on screen without imposing a linear start-to-finish order. This is another cute idea that is good in minor ways and terrible in major ones. Teaching children to understand the orderly unfolding of a plot or a logical argument is a crucial part of education. Authors don't merely agglomerate paragraphs; they work hard to make the narrative read a certain way, prove a particular point. Dynamiting documents into disjointed paragraphs is one more expression of the sorry fact that sustained argument is not our style. Logical presentation be damned. (p. 14)[14]

Thus the argument is joined.[15] It takes us directly to the set of issues surrounding electronic publishing, the use of the Internet by undergraduates, and the role of libraries in this interplay. From differing perspectives, Deekle, Engle, Farber, Pask, and Tiefel contribute importantly to this discussion.[16]

During the past several years, the editors have attended a number of workshops and conferences on the Internet and on teaching the use of the Internet to faculty and students. Almost without exception, the speakers (mostly librarians) at these conferences accept the twin dogmas that the Internet is the new literacy, the wave of the scholarly publishing future, and that faculty and students can now use the Internet to bring into the home, office, or classroom a vast array of valuable information and scholarly resources. Indeed, introducing researchers to the Internet has become a kind of moral imperative for many academic librarians who apparently believe the ordinary world of print publishing to be a rapidly fading anachronism.

On the street, one can hear the Internet called datatrash. It has been described as a toxic waste dump, a fairy tale, and as a haystack (of needle fame). Ted Nelson was quoted in *Atlantic Monthly* to the effect that the so-called information age is really the age of information lost (Max, 1994, p. 71). In the same article, Updike offered the opinion that fiction on the Internet is mostly roadkill anyway (p. 67). What's going on here?

The little boy who revealed the emperor to be without clothes did not necessarily mean to suggest that the unfortunate monarch was deserving of no respect whatsoever. Just so, it is not our intention to malign the Internet as of no value at all to librarians or their customers. But we believe that our colleagues often expect too much of it and similar electronic resources, and that they transfer this optimism to our students without due regard for the problems and road hazards. Many of us encourage a faith that frequently is unfounded and divert many library patrons from more appropriate (often, although not always, print) resources.

The first thing we need to realize is that the Internet is not a thing. It is, at its most basic, merely an electronic communications network. To speak of using the Internet to find this or that piece of information, or to locate a specific source of information, is to treat the Internet as though it were a single and coherent compendium. But all of the techniques that are common to Internet access in nearly every electronic environment are rather more like the light switch in the reading room of a library than they are like a guide to the collection of items contained in that room; the illumination is still only of an undifferentiated lump. In particular, no systematic or global strategy for locating information and information sources will as yet yield useful results on the Internet. No useful filtering or discriminating mechanism has yet been developed for

searching across the Internet that will sift out irrelevant or unreliable information while leaving the most relevant resources unscathed.   In other words, no serious indexing exists for the Internet and is not likely to exist in the near future.[17]   "Telling average public library patrons or average undergraduate students that they can traverse the Web to find a good WAIS server that may help them locate the information they really need," caustically observe Crawford and Gorman (1995), "is basically telling them to go to hell" (p. 128).[18]

The temptation is to suppose that, because the Internet is already in machine-readable form, indexing the Internet need involve nothing more than asking a machine to read it. This is a frequent theme in discussions of this problem, both on and off the Internet itself. In fact, when online library catalogs first became common, the suggestion was often heard that traditional cataloging practices (assignment of subject headings, for instance) would no longer be necessary; keyword searching was the answer to our prayers for fast and efficient subject searching. One occasionally still encounters this foolish idea, even within the profession. The assumption is, we know, quite false. There is a reason that the makers of large and complex commercial databases invest substantial sums of money in indexing and vocabulary control to provide effective access to their data files. It is entirely obvious that intellectual indexing, vocabulary control, and structured search techniques are even more important in electronic data files than in printed files, precisely because of the great size of the databases and the genuinely remarkable power of the searching algorithms. But neither is this just or merely a search engine problem. A search and retrieval device or mechanism is only as good as that upon which it is asked to operate.

One of the inflated claims made by Internet hucksters is that the network now makes possible direct access to the collections of very many of the world's great libraries. We now have, they like to say, the culture of the entire planet at our fingertips: the libraries, the museums, the archives, the galleries; you name it, it's on the Net.

Roszak (1994) remarks drily that we have a name for visions like this: we call them fairy tales (p. 186).[19]   Never mind that many cyberspace explorers fail to understand that what they will get when they access a library OPAC is only the library's online catalog and rarely the books and journals themselves. But suppose that a student (or faculty member) at home really just does want merely to search the catalogs of some Internet libraries. What are the obstacles? For the unaware, that is, most of our students, the problems add up to a nightmare.[20]

Our hapless wanderer, for example, discovers that merely getting into, and then out of, a catalog may not be all that straightforward; in fact, escape may turn out to be impossible. She learns, probably without realizing it, that how—and if—a library has implemented authority control

will substantially alter search results from one catalog to the next. She learns, also probably without realizing it, that decisions individual libraries make about the character of keyword and subject searches—what fields and subfields, for instance, are included in each and how they are combined—will similarly affect cross-catalog searching in unpredictable and significant ways. Why don't more catalogs, for instance, include their authority records in keyword searching?

Brand name shopping may not, she finds, yield the same quality at every supermarket. One library's version of a given OPAC search engine may differ significantly from that of another. Decisions about how to configure any particular search type, about which fields to include in each search strategy, and about subject and name authorities will dramatically affect the results of what appears to be the same search for an inquirer moving across catalogs, even though the catalog vendor is the same at each site. Almost never do the catalog interface and help screens reveal this crucial information. In fact, just the variety of help structures is astounding and usually disappointing.

It seems to us undeniable that the Internet contains a few information and scholarly gems but mostly dross. And mining the ore is uncertain at best, impossible at worst, and costly in any case. The Internet has been oversold as the next generation in scholarly communication and academic publishing.

CONCLUSION

The Role of the Library

A question implicit in most of the articles in this *Library Trends* issue, but tackled directly by Deekle, Gowler, Hubbard, and MacAdam, is this: What, in the postmodern world, constitutes a liberal education? And, more particularly, what does the college or university library have to do with the answer to this question?

Gowler takes a step toward an answer in his characterization of the library and its patrons as a community of learners. Some of the participants in this conversation are represented only in their books. Others teach with, through, and even contra the books; still others learn and question from both the living and the dead. It is a certain kind of involvement in this discussion, suggests Gowler, that is at the heart of a liberal education.[21] The question of the canon, addressed in quite different ways by Gowler and Hubbard, is intimately linked to the question of what is the proper content of general education (at any level). Are some books simply better than others? And if they are, which books exactly are they? Who should read them and when? An unbroken circle brings us back to our question: What is the contribution of the library in providing a liberal education to undergraduates?

The public vocabulary of higher education is rapidly being overtaken by the language of the marketplace. Undergraduate education, and the undergraduate degree, are increasingly characterized in terms of "outcomes," "outputs," "value-added," and "productivity." Students are now "customers," "consumers," and "inputs." Governing bodies increasingly insist upon "assessment," "measurement," and "accountability." There is good reason to believe that legislators will not hesitate to use their funding authority to reward, or punish, public colleges and universities as a function of higher education's response to the concerns of voters. Education is, for middle America, an enormous public investment; it is no surprise that a respectable economic return on that investment is high on the list of priorities for many voters (Smith, 1995). What has been gently described as "performance-based funding" is capturing the attention of many state governments (Ashworth, 1994). One result has been renewed interest in the nature, content, value, and marketability of the baccalaureate degree—which is to say, most often, in the outcomes of general education.

In this process of definition and redefinition, an academic library should not accept merely the traditional supporting role. If we are to take seriously the idea that the academic library's programs and services make up a proper and legitimate curriculum, then we cannot escape the obvious conclusion that the library, like the parent institution, is fully accountable for its educational performance. Librarians are in the education business, argues Kieft (1995), and not the information business:

> Thus, librarians' business as educators is, in its largest sense, the growth of souls and the finishing of spirits, which means that librarians, like all teachers, must engage in nurturing students to create themselves as knowledgeable human beings by passing along to them the authority not only of their knowledge but of their experience of themselves as knowledgeable beings. (pp. 17-18)

The contributors to this issue of *Library Trends* would find little here with which to disagree. It is clear that, for these authors, the essential character of undergraduate librarianship is intellectual engagement: engagement with students, with faculty, and with the complex nexus of ideas, processes, information, and scholarship that is being created and shaped by emerging technologies. Librarians are uniquely placed to observe, understand, and participate in the interaction of these elements of the learning situation. It is critically important, therefore, that we bring these concerns and this understanding into the debates and decisions surrounding broad educational issues.

The Role of Librarians

What practical steps can college and university librarians take to become more a part of the undergraduate educational mission? Kieft (1995) offers a number of valuable suggestions as do several of the contributors to this *Library Trends* issue. Other useful strategies include:

- Know and understand the organization of undergraduate instruction on your campus. Identify the key institutional committees and working groups (charged, for instance, to oversee the curriculum, the general education component, degree requirements, and other aspects of the academic program) and lobby for librarian membership in these bodies. Participate actively in honors or freshman-year experience initiatives and use the opportunity to become involved with student services as well as academic affairs programming.
- Become familiar with the political climate in your state or region as it affects higher education; in particular, find out what (if any) assessment measures are being used or considered by your legislature and/or governing body to evaluate institutional performance and student outcomes. Get the library involved in the response to these measures and take a leadership role in defining the information competency part of this assessment activity (see the Rader contribution to this *Library Trends* issue for an example).
- Read routinely the higher education literature that deals with these matters; in particular, follow the key journals in undergraduate and general education, including at least: *Liberal Education* (Association of American Colleges), *Change* (American Association for Higher Education), *Academe* (American Association of University Professors), and *The Journal of General Education*. Many of the most important pedagogical and philosophical issues of undergraduate education are rarely, if ever, discussed in the professional library literature.
- It is often said that the problem of undergraduate reading is not really what these students read, but that they don't read much of anything at all. Many college and university libraries no longer take seriously the reader's advisor function, including making available general reading collections and rooms. The required reading list for first-year students is rapidly going the way of the core curriculum. Librarians can play a crucial role in turning this situation around by sponsoring "unofficial" reading programs (over the summer or during the school year), by creating and publishing more formal reading lists featuring, for instance, faculty favorites, by organizing book exhibits aimed at undergraduates, and by restoring to the library space a general reading room or browsing collection. The University of California at Berkeley, for example, has created a World Wide Web page devoted to recommended summer reading for incoming freshmen.[22]
- Finally, become informed about the controversies and conflicts surrounding the definition of the postmodern university (Pratt, 1994). Try at least to untangle the labyrinth which is cultural pluralism, cultural relativism, multiculturalism, deconstructionism, and postmodernism. Find out who is thinking what on your campus about

the literary canon, the question of scientific neutrality, and the aims of education in postwar society. Engage these people in conversation and controversy, and invite them to talk with you and your colleagues. Sponsor speaking programs and seminars on these and related issues.

If futurist Rifkin (1995) is right, librarians have no future in this world (p. 158).[23] But if this is truly the decade of the undergraduate in higher education (Boyer, 1990, p. xi), then the contributions to this issue of *Library Trends* are a powerful and persuasive argument that librarians and their work will be critically important for the success of this enterprise, not merely for the workforce but also for intelligent and responsible citizenship.

ACKNOWLEDGMENT

NOTES
[1]   Thus Copperman's (1978) provocative claim that for "the first time in the history of our country, the educational skills of one generation will not surpass, will not equal, will not even approach, those of their parents" (quoted in *National Commission on Excellence in Education*, 1983, p. 11). For an assessment of Copperman's evidence for this conclusion, see Kaestle et al. (1991).
[2]   The most virulent critics of higher education in recent years have been conservative journalists. The best known of these, and most widely denounced, are Kimball (1990), Sykes (1988), and D'Souza (1991). Similar charges, however, have come from within the academy. Most of these insider criticisms are less sensational than the journalistic attacks, but are frequently no less harsh. See, for instance: Anderson (1992), Douglas (1992), and Huber (1992). Expressing similar concerns, but from a more liberal perspective, are: Bromwich (1992), Damrosch (1995), Getman (1992), and Smith (1990).
[3]   This is not a new complaint; Upton Sinclair (1922) remarked upon it in his muckraking survey of higher education (p. 144).
[4]   This is certainly one way to understand the attitude expressed in a recent article on reference services in the electronic library by Mardikian and Kesselman (1995). Professional librarians, they argue, need to be released from routine reference activities so that they can concentrate on in-depth research assistance and instruction to faculty and students; low-level questions can be answered by a combination of trained staff and computerized tools of various kinds. One might plausibly argue that this kind of tiered reference service is roughly analogous to the common practice in the academy of assigning many lower-division courses to graduate and teaching assistants. Instructive in this connection is the exchange of views on reference service in the January 1995 issue of *The Journal of Academic Librarianship*.
[5]   That what happens in the classroom is an undergraduate's only important educational experience has been called one of the myths of undergraduate education (Terenzini & Pascarella, 1994, pp. 31-32). Hutchins had, in 1936, called this dogma a "modern heresy" (Hutchins, 1936, pp. 68-69).
[6]   The idea that libraries should be thought of as independent educative institutions, similar in this way to museums and galleries, is part of what Cremin (1990) described as one of the grand stories about the educational process that emerged in the early 1970s. On this view, in part, the burden of instruction and education cannot reasonably be carried solely by classroom-based institutions, if for no other reason than this

piece of the educational process for adolescents and adults is severely limited in space and time (pp. 25-29). Compare also the policy documents to which Cremin refers, and especially: the National Commission on the Reform of Secondary Education (1973) and the Carnegie Commission on Higher Education (1974). This theme has been more recently developed by Boyer (1991) and the National Task Force on Scholarship and the Public Humanities (1990), who describe libraries as learning stations and parallel schools (from Cheney, 1988). Birdsall (1994) provides an extended, and often fascinating, discussion of the implications of the library as place. Meyrowitz (1985) provides a broader sociological analysis of the concepts of place and community in an electronic environment.

[7]   A large user survey recently conducted at one of the editors' institutions revealed that, of 400 students asked, nearly all suggested that individual assistance would be the most valuable service the library could offer; some 80 percent of faculty asked a similar question responded that librarians working individually with students would contribute most to students' ability to use the library. These results suggest that undergraduates would rather encounter the traditional reference model when they need help; instructional activities as such, contrasted with tutorial assistance at point of need and time of use, do not appear popular at all.

[8]   We regard the expressions "computer literacy" and "information literacy" as unfortunate linguistic barbarisms. Nevertheless, Kwasnik (1990) provides an excellent analysis of the concepts of literacy and information literacy, and of what it means to be "illiterate" in either context. Lyman (1995) provides an exploration of the tensions between computer literacy and liberal education: "Mass communication and information technology," he argues, "are texts for the critical mind, different from, but not the opposite of print" (p. 15). The task of liberal education, Lyman suggests, is to enable citizens to make reasonable judgments about the authority of information in the everyday world. For a general survey of the issues, see Moulakis (1994).

[9]   The numbers are depressing. What they add up to, in the words of the Department of Education's 1993 National Excellence report, is that only a small percentage of students are prepared for . . . college-level work as measured by tests that are not very exacting or difficult (p. 12). Compare also U. S. Department of Education (1986, 1990, 1993) and publications of the National Adult Literacy Survey, the National Assessment of Educational Goals, and the National Assessment of Educational Progress. The most comprehensive and balanced study of literacy in the United States is Kaestle et al. (1991). Whether the facts describe "decline" or merely "stagnation" is an open question (see Kaestle, 1995).

[10]   We do not shrink from using the expression "liberal education," despite the knocking about the concept has received in recent years. We acknowledge the late Commissioner of Baseball's distinction in this context between studia humanitatis and studia liberalia, and accept his commentary on these matters to be an adequate basic account of the nature of a liberal education (Giamatti, 1990). This is not quite the same concept as "general education," an expression more common these days (for an account of the contemporary general education scene, see Gaff, 1983; for a history of the decline and fall, refer to Rudolph, 1977).

[11]   See the MacAdam article in this issue of *Library Trends* and, for instance, Paul (1993). The Yale reports are reprinted frequently in documentary histories of American education, as in: Willis (1993), pp. 27-37). The term "discipline" as used by the authors of the Yale manifesto can be, and has been, variously interpreted. But there can be no mistake that one part of the meaning is what we would call the modern critical habit of thought (compare Kimball 1995). What nearly all definitions of critical thinking have in common is that the critical habit of mind is, essentially, reflectively inferential. Blandy and Libutti, in their contribution to this *Library Trends* issue, explore the complex relationships among levels of scholarship, thought, analysis, and critical thinking as undergraduates move from the status of novice to veteran and back again.

[12]   See, for example, McPeck (1990) and Meyers (1986). For an assessment of how disposed toward CT most college freshmen are, see Facione, Sanchez, Facione, and Gainen (1995). Jones (1995)attempts to identify the key elements of the concept for assessment purposes.

13   This theme is elaborated in Crawford and Gorman (1995).

14   For a criticism of recent efforts to develop hypermedia software ("Faust-in-a-box") in
the humanities, see Rosen (1995). The problem, suggests Rosen, is not so much the
medium as the intellectual passivity students today bring to whatever they are reading,
whether words on a page or a screen. Talbott (1995) develops in some detail this
theme of electronic fragmentation: of mind, of self, and of community.

15   Postman is famous (or notorious) for this kind of complaint; see Postman (1985, 1992).
More recent critics of the same mind are Birkerts (1994) and Sanders (1994). An
alternative view is offered in Lanham (1993). Interestingly, Stoll (1995) argues that
computers are too linear, logical, analytical, and constraining, and as a result punish
the imaginative and the inventive (pp. 45-46). Marc (1995) is critical of Postman's
particular point of view, but is nevertheless realistic about the effects (positive as well
as negative) of television on literacy.

16   The entire Winter 1993 issue of *Liberal Education* was devoted to the future of the book
in an electronic age (see especially Deekle, 1993).

17   As a result, notes Magier of Columbia University, the Internet "may never come close
to realizing its academic potential" (Jacobson, 1995, p. A29). Magier's picture of the
Internet is vaguely reminiscent of Borges's "Library of Babel."

18   Compare this with the astonishing claim made by the authors of a recent article on
outmoded reference services:

> The development of gopher menus and World Wide Web hypertext links, and
> continuing development of intelligent retrieval ala knowbots, to facilitate
> access to information expands the user base beyond the confines of a library
> building and destroys completely the reference role as mediator. (Ewing &
> Hauptman, 1995, p. 4)

Moderately intelligent high-school students, according to these optimistic observers,
can now use almost any CD-ROM product successfully—where success is apparently
defined merely as the discovery of "usable information," without regard to a librarian's
opinion on the matter or guidance in the search. It is significant that the classroom
instructor would not be assigned this role of redundant bystander in the educational
process.

19   Some observers are finally beginning to notice that the relative lack of scholarly con-
tent on the Internet is, as Shreeves (1994) has suggested, a serious impediment to the
use of electronic resources (p. 137). Indeed, until fairly recently, most electronic
publishing on the Internet failed to pass the So What? test. That is, much of it was not
of sufficient scholarly importance or interest to warrant the effort of trying to identify
and control it. While this situation is beginning to change, it remains entirely unclear
that scholars and researchers will rush to publish their findings on the Internet as an
alternative to traditional print forms. For a brief survey of some of the issues, see
McFadden (1994).

20   One can learn much from Baker's (1994) article in *The New Yorker*—a great deal more, in
fact, than most librarian critics of the piece understood or were willing to admit. In par-
ticular, Baker reveals an intelligent and informed awareness of just what happens when a
searcher goes shopping on the Internet across a variety of library catalogs and databases.

21   The question of the value of the humanities has often been conflated with the Great
Books issue; they are, in fact, rather different. But it would be difficult to find a more
clear and concise statement of the importance of joining the two in a program of
general education (especially adult education) than in a work to which Gowler refers:
Hutchins (1952). It is not entirely clear that Hutchins actually wrote this book as it was
published (as the first volume of the Great Books of the Western World set), but it
accurately represents his views about general education, views shared generally by his
friends and collaborators on this project. Compare Van Doren (1943), Adler (many
works), and Erskine (1928). The Great Books set, largely Adler's child, was almost
immediately condemned by critics as an elitest attempt at canon fixing. Despite
Hutchins's efforts, the Great Books curriculum was never adopted at Chicago; that
distinction went to St. John's College. The library-as-conversation model has been
interestingly developed by Bechtel (1986) and Sauer (1995).

22   As of this writing, the address is: http://www.lib.berkeley.edu/TeachingLib/ SummerReading.html. One of the site authors is Ellen Meltzer, also a contributor to this issue of *Library Trends*.

23   Ironically because, in Rifkin's view, the post-industrial marketplace is rapidly being overtaken by the Information Age. Just exactly how automated information will be intelligently created, managed, retrieved, and interpreted in this marketplace is not entirely clear.

REFERENCES

Anderson, M. (1992). *Imposters in the temple*. New York: Simon & Schuster.

Ashworth, K. H. (1994). Performance-based funding in higher education: The Texas case study. *Change, 26*(6), 8-15.

Baker, N. (1994). Discards. *New Yorker, 70*(7), 64-86.

Bechtel, J. M. (1986). Conversation, a new paradigm for librarianship? *College & Research Libraries, 47*(5), 219-224.

Birdsall, W. F. (1994). *The myth of the electronic library: Librarianship and social change in America*. Westport, CT: Greenwood.

Birkerts, S. (1994). *The Gutenberg elegies: The fate of reading in an electronic age*. Boston, MA: Faber & Faber.

Botstein, L. (1990). Damaged literacies: Illiteracies and American democracy. *Dædalus, 119*(2), 55-84.

Boyer, E. L. (1987). *College: The undergraduate experience in America*. New York: Harper & Row.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Boyer, E. L. (1991). *Ready to learn: A mandate for the nation*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Branscomb, H. (1940). *Teaching with books: A study of college libraries*. Chicago, IL: American Library Association.

Bromwich, D. (1992). *Politics by other means: Higher education and group thinking*. New Haven, CT: Yale University.

Carnegie Commission on Higher Education. (1974). *A digest of reports of the Carnegie Commission*. New York: McGraw-Hill.

Cheney, L. V. (1988). *Humanities in America*. Washington, DC: National Endowment for the Humanities.

Copperman, P. (1978). *The literacy hoax: The decline of reading, writing, and learning in the public schools and what we can do about it*. New York: William Morrow.

Crawford, W., & Gorman, M. (1995). *Future libraries: Dreams, madness, & reality*. Chicago, IL: American Library Association.

Cremin, L. A. (1990). *Popular education and its discontents*. New York: Harper & Row.

Damrosch, D. (1995). *We scholars: Changing the culture of the university*. Cambridge, MA: Harvard University.

Deekle, P. V. (1993). Beyond books and bytes: Reading and the future of scholarly communication. *Liberal Education, 79*(1), 12-17.

Douglas, G. (1992). *Education without impact: How our universities fail the young*. New York: Birch Lane.

D'Souza, D. (1991). *Liberal education: The politics of race and sex on campus*. New York: St. Martin's.

Erskine, J. (1928). *The delight of great books*. Indianapolis, IN: Bobbs-Merrill.

Ewing, K., & Hauptman, R. (1995). Is traditional reference service obsolete? *Journal of Academic Librarianship, 21*(1), 3-6.

Facione, P. A.; Sanchez, C. A.; Facione, N. C.; & Gainen, J. (1995). The disposition toward critical thinking. *Journal of General Education, 44*(1), 1-25.

Gaff, J. G. (1983). *General education today: A critical analysis of controversies, practices, and reforms*. San Francisco, CA: Jossey-Bass.

Gelernter, D. (1994). Unplugged: Don't count on computers to save the schools. *New Republic, 211*(12), 14-15.

Getman, J. (1992). *In the company of scholars: The struggle for the soul of higher education*. Austin, TX: University of Texas.

Giamatti, A. B. (1990). *A free and ordered space: The real world of the university*. New York: W. W. Norton.

Gorman, M. (1994). Technovandals and the future of libraries. *Chronicles, 18*(9), 20-22.

Huber, R. M. (1992). *How professors play the cat guarding the cream: Why we're paying more and getting less in higher education*. Fairfax, VA: George Mason University.

Hutchins, R. M. (1936). *The higher learning in America*. New Haven, CT: Yale University.

Hutchins, R. M. (1952). *The great conversation: The substance of a liberal education*. Chicago, IL: Encyclopedia Britannica.

Jacobson, R. L. (1995). Taming the Internet: Librarians seek better indexing, subject by subject, but task is daunting. *Chronicle of Higher Education, 41*(32), A29-A31.

Jones, E. A. (1995). *National assessment of college student learning: Identifying college graduates' essential skills in writing, speech and listening, and critical thinking*. Washington, DC: USGPO.

Kaestle, C. F. (1995). Literate America: High-level adult literacy as a national goal. In D. Ravitch & M. A. Vinovskis (Eds.), *Learning from the past* (pp. 329-354). Baltimore, MD: Johns Hopkins University.

Kaestle, C. F.; Damon-Moore, H.; Stedman, L. C.; Tinsley, K.; & Trollinger, W. V., Jr. (1991). *Literacy in the United States since 1880*. New Haven, CT: Yale University.

Kieft, R. (1995). The death of the librarian in the (post) modern electronic information age. In *Information for a new age: Redefining the librarian* (pp. 15-22). Chicago, IL: American Library Association.

Kimball, B. (1995). *Orators & philosophers: A history of the idea of liberal education*. New York: College Entrance Examination Board.

Kimball, R. (1990). *Tenured radicals: How politics has corrupted our higher education*. New York: Harper & Row.

Kwasnik, B. H. (1990). Information literacy: Concepts of literacy in a computer age. In V. L. P. Blake & R. Tjoumas (Eds.), *Information literacies for the twenty-first century* (pp. 127-143). Boston, MA: G. K. Hall.

Lanham, R. (1993). *The electronic word: Democracy, technology, and the arts*. Chicago, IL: University of Chicago.

Lyman, P. (1995). What is computer literacy and what is its place in liberal education? *Liberal Education, 81*(3), 4-15.

Marc, D. (1995). *Bonfire of the humanities: Television, subliteracy, and long-term memory loss*. Syracuse, NY: Syracuse University.

Mardikian, J., & Kesselman, M. (1995). Beyond the desk: Enhanced reference staffing for the electronic library. *Reference Services Review, 23*(1), 21-28, 93.

Max, D. T. (1994). The end of the book? *Atlantic Monthly, 274*(3), 61-71.

McFadden, T. G. (1994). Indexing the Internet. *Learned Publishing, 7*(1), 17-27.

McPeck, J. E. (1990). *Teaching critical thinking*. New York: Routledge.

Meyers, C. (1986). *Teaching students to think critically*. San Francisco, CA: Jossey-Bass.

Meyrowitz, J. (1985). *No sense of place: The impact of electronic media on social behavior*. New York: Oxford University.

Moulakis, A. (1994). *Beyond utility: Liberal education for a technological age*. Columbia, MO: University of Missouri.

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: USGPO.

National Commission on the Reform of Secondary Education. (1973). *The reform of secondary education: A report to the public and the profession*. New York: McGraw-Hill.

National Task Force on Scholarship and the Public Humanities. (1990). *National Task Force on Scholarship and the Public Humanities: Recommendations of the task force*. New York: American Council of Learned Societies.

Paul, R. W. (1993). *Critical thinking: How to prepare students for a rapidly changing world*. Santa Rosa, CA: Foundation for Critical Thinking.

Postman, N. (1985). *Amusing ourselves to death: Public discourse in the age of show business*. New York: Viking.

Postman, N. (1992). *Technopoly: The surrender of culture to technology*. New York: Knopf.

Pratt, L. R. (1994). Liberal education and the idea of the postmodern university. *Academe, 80*(6), 46-51.

Rifkin, J. (1995). *The end of work.* New York: G. P. Putnam's Sons.

Rosen, L. (1995). The way to design creative software for the humanities. *Chronicle of Higher Education, 41*(38), A48.

Roszak, T. (1994). *The cult of information* (2d ed.). Berkeley, CA: University of California.

Rudolph, F. (1977). *Curriculum: A history of the American undergraduate course of study since 1636.* San Francisco, CA: Jossey-Bass.

Sanders, B. (1994). *A is for ox: Violence, electronic media, and the silencing of the written word.* New York: Pantheon.

Sauer, J. A. (1995). Conversation 101: Process, development, and collaboration. In *Information for a new age: Redefining the librarian* (pp. 135-151). Englewood, CO: Libraries Unlimited.

Shreeves, E. (1994). Embracing the inevitable. *Journal of Academic Librarianship, 20*(3), 136-137.

Sinclair, U. (1922). *The goose-step: A study of American education.* Pasadena, CA: Upton Sinclair.

Smith, P. (1990). *Killing the spirit.* New York: Viking.

Smith, V. (1995). Considering the public interest. *Liberal Education, 81*(2), 4-9.

Stoll, C. (1995). *Silicon snake oil: Second thoughts on the information highway.* New York: Doubleday.

Sykes, C. J. (1988). *Profscam: Professors and the demise of higher education.* New York: St. Martin's.

Talbott, S. L. (1995). *The future does not compute: Transcending the machines in our midst.* Sebastopol, CA: O'Reilly & Associates.

Terenzini, P. T., & Pascarella, E. T. (1994). Living with the myths: Undergraduate education in America. *Change, 26*(1), 28-32.

U. S. Department of Education. (1983). *National excellence: A case for developing America's talent.* Washington, DC: USGPO.

U. S. Department of Education. (1986). *Literacy: Profiles of America's young adults.* Washington, DC: USGPO.

U. S. Department of Education. (1990). *Workplace competencies: The need to improve literacy and employment readiness.* Washington, DC: USGPO.

U. S. Department of Education. (1993). *Adult literacy in America: A first look at the results of the national adult literacy survey.* Washington, DC: USGPO.

Van Doren, M. (1943). *Liberal education.* New York: Henry Holt.