

This book is a useful resource for anyone involved in information literacy. Although it might not be the book that an academic administrator should read, it will certainly help information literacy advocates prepare their case to solicit administrative support for information literacy. I recommend it for all academic libraries planning or actively engaged in information literacy initiatives. — *Bil Stahl, Western Carolina University.*

Kirp, David L. *Shakespeare, Einstein, and the Bottom Line: The Marketing of Higher Education.* Cambridge, Mass.: Harvard University Pr., 2003. 328p. alk. paper, \$29.95 (ISBN 0674011465). LC 2003-49914.

Geiger, Roger L. *Knowledge and Money: Research Universities and the Paradox of the Marketplace.* Stanford, Calif.: Stanford University Pr., 2004. 321p. alk. paper, \$27.95 (paper) (ISBN 0804749264); \$70 (cloth) (ISBN 0804749256). LC 2004-1622.

“The business of America is business,” observed Calvin Coolidge wryly in 1925. But what is the “business” of higher education? Eighty years ago, the notion that a university could itself be a “business” and capable of forming any type of alliance with commerce was surely anathema. Higher education’s mission was solely to promote the House of Intellect. The only role for commerce was to donate buildings and laboratories and to endow chairs, scholarships, and book funds. The ivory tower and business were two entirely different worlds, incompatible and incommensurate—often even at loggerheads—in almost every way. Today’s intimate connection of the two would have been incomprehensible in 1925. Yet, Coolidge’s comment might well apply to the modern university where, within but a single generation, the entire concept of financing higher education has been radically transformed. No longer an academic enclave isolated and

insulated from society’s mainstream, the modern university has become a very businesslike enterprise.

This far-reaching and rapidly evolving shift from ivory tower to marketplace is the subject of books by David L. Kirp and Roger L. Geiger, two scholars who have spent their careers studying higher education.¹ Kirp, who is Professor of Public Policy at UC Berkeley, received Ford Foundation support for his research. Geiger, Distinguished Professor of Higher Education at Pennsylvania State University, received support from the Alfred P. Sloan and Spencer Foundations. The result is two books of virtually the same length, each attempting to explain why and how research universities and some colleges have formed intimate alliances with industry. Both authors outline the consequences of these connections. Both books cover the same time period, 1980 to date, but the focus of each book is quite different.

Kirp’s *Shakespeare, Einstein, and the Bottom Line: The Marketing of Higher Education* is a collaborative work of thirteen chapters, some cowritten by colleagues who are thanked in the acknowledgments and in the endnotes (but not on the title page or in the introduction). However, the first endnote to each chapter carefully explains the sources of their findings, usually personal or telephone interviews and e-mails to and from “trustees, administrators, professors and students” and “others knowledgeable about the institution.” Five hundred and ninety-four endnotes exhaustively (but not always thoroughly or accurately) document the work.

Kirp and his associates have organized their book as case studies of some dozen or so major colleges and universities, plus one consortium, several Silicon Valley commercial firms that provide information technology (IT) certification, and a few other educational institutions within the greater San Francisco Bay area. It is

somewhat surprising that the University of Phoenix, perhaps the nation's best-known, for-profit, upper-level institution, and mentioned throughout, is not accorded a separate chapter.

Autonomy is often the ultimate aim of many professional schools, and those that have wedded themselves to external support seem very likely to reach that goal. Kirp recounts in detail how a private academic enclave, the Darden Graduate School of Business at the University of Virginia, evolved as an independent, self-determined unit within the structure of a publicly funded university. Darden built its own campus, raises its own funds, keeps 90 percent of the cash it takes in, and sets its own salary schedule "in accordance with peer group market levels." What we see in such a development, states Kirp, citing the chancellor of the University of Texas, is a growing privatization of higher education and the consignment of the historic public support of universities to the "junkyard of history." This is perhaps an extreme view. Still, a large and powerful academic unit not under central administrative control is no longer viewed as an anomaly outside of Harvard, where "every tub on its own bottom" has long been the prevailing administrative paradigm.²

A generation ago, writes Kirp, declining public support for higher education encouraged some early experiments in rationalizing financing, inducing some institutions to adopt management models from the alphabet soup of the business world: PPBS, ZBB, MBO, and TQM. Many of these methodologies crept into academic libraries, with varying degrees of success. When it became clear, as it should have been from the outset, that colleges and universities were not factories turning out widgets and that a focus on professorial "productivity" was meaningless, most institutions abandoned these commercial borrowings as dismal

failures. (Kirp points out that, ironically, some institutions of higher education were so behind the times that they began implementing these outdated systems long after most businesses had abandoned them.) Despite these failures, states Kirp, academe readily adopted a business vocabulary: academic departments became "revenue centers," professors were turned into "entrepreneurs," students morphed into "customers," and others with vested interests became "stakeholders."

Two-thirds of the way through the book, Kirp opines "in this high stakes world, money, not quality, talks the loudest." That simple phrase not only encapsulates Kirp's central thesis but explains in plain language most of the political shenanigans behind some schools' use of business support to gain autonomy and others' vain hopes that the Internet and distance education would become a financial gold mine. In respect to institutional/academic politics, Kirp is unsparing, revealing without hesitation how sharp are the knives wielded in intramural and interinstitutional battles and how vicious these struggles can become.

An instructive chapter on Columbia and MIT details the former's doomed virtual extension project, dubbed Fathom, and the latter's successful OpenCourseWare program. Columbia envisioned an enormous income from Fathom. But after spending nearly \$40 million of its own money and realizing revenue of only \$700,000 over thirty months, Columbia unceremoniously dumped the project. MIT, on the other hand, with Mellon Foundation support, opted to give away its course materials—but without compromising its credentials—thus capturing the moral high ground and avoiding the allegation that higher education was being "contaminated" by commerce.

A separate chapter outlines the grand success of England's Open University.

But, explains Kirp, the effort to transplant the concept to the U.S. failed miserably, despite an expenditure of \$20 million. Behind the fiasco lay factors such as course materials that were excessively British (“too much Queen and cricket”) and money denominated in pounds. Also, Open University’s approach was decidedly low tech with minimal reliance on the Internet. It was uncertain whether credits could be transferred to recognized U.S. schools or whether federal student loans could be negotiated. Accreditation agencies, moving at a glacial pace, seemed unable to deal with a school that had no physical plant, no library, and faculty scattered about. Kirp concludes his overview of the failed transfer project with a harsh indictment of the American accreditation process and procedure.

The decline of the traditional undergraduate canon, especially the disappearance of the classics and their replacement by vague “distribution requirements” has, Kirp maintains, turned higher education into a shopping mall where the technology of making money—the “practical arts”—has become students’ prime focus. In his concluding chapter, Kirp poses a series of hard, vital questions: Can the culture of the academy be reinvented “to find persuasive ways of explaining to a new generation the enduring values of a liberal education?” How can the academic commons survive competition from for-profit schools and how shall it cope with its own failure to earn significant income from electronic, distance education endeavors? To what degree are universities demeaned and compromised when a commercial entity can take over the patents for research done at a specific school, as Novartis was able to do with research done at Berkeley? (Like Kirp, Geiger characterizes the Novartis/UCB arrangement as “notorious.”)

Kirp laments that in an era of expensive educational technology, there is “no

discernible enthusiasm for a twenty-first century version of the GI Bill to underwrite access to the best of virtual education,” nor any push for a modern counterpart to the 1862 Morrill Land Grant Act. Some technologies have become disappointments. Sixty years ago, just as viable national television was getting started, idealists looked to TV as a fantastic opportunity to bring high culture and education to the masses, but what it actually accomplished was to bring up generations of couch potatoes eager for mindless, passive entertainment. A similar idealism—“dreams of an infinitely richer world of ideas”—governed the early days of the Internet, but Kirp glumly concludes, in reality, “the Web has been turned into a shopping arcade.”

In a concluding essay, Kirp poses the toughest questions of all, questions whose answers will have an especially severe impact on the humanities:

who will underwrite the inquiries that academics pursue in the name of intellectual curiosity, with no hope of a quick return on investment? If the market truly reigns, will entire fields, and the intellectual capital they represent, wither away over time? Will sociology and comparative literature, and pure mathematics too, become the “dead languages” of the new millennium?

Would “the market” finance a scholar trying to decipher Etruscan? Mayan? Linear A and Linear B? Research that makes no obvious contribution to profit? Will “the market” finance preservation of the holdings of the great research libraries, the books on deteriorating paper that, in reality, very few scholars ever read? A similar question arose nearly seventy years ago in connection with microfilming major foreign newspapers. In the end, it was

the ARL community itself that took over the job because profit for the commercial sector was clearly very limited and quality control an ongoing problem.

What makes *Shakespeare, Einstein, and the Bottom Line* distinctive is its intense focus on the particulars of these new arrangements between the academy and commerce. Kirp unhesitatingly goes into gory details, such as one university's breaking into the electronic admissions files of another, the academic equivalent of industrial espionage. His style is anything but stuffy, firmly grabbing and holding the reader's attention as he describes the vigorous infighting between the pro- and antibusiness forces on campus. Kirp is eager to tell a story and is obviously very good at it. His writing style is a mix of formal academic and breezy journalistic, sometimes carrying almost the tone of an investigative report prepared for, say, *The New Yorker* magazine. He uses catchy chapter titles, such as *This Little Student Went to Market*, and *Kafka Was an Optimist*. There are generous dollops of "in-your-face" wording. For example, instead of discussing issues, people "jaw-bone." Expressions such as "buckets of money" and "packets of money" abound. If Professor Kirp's intent was to shock his readers, or at least keep them awake, he has been notably successful. Should one decry his jaunty style? Probably not. Higher education and commerce have become intimate so swiftly that it may be necessary to shake up any surviving stodgy establishments whose faculty and administrations have been slow to recognize the new union and respond to it.

On the minus side, Kirp provides no consolidated bibliography or list of references, a considerable disservice to researchers. The endnote apparatus is frustrating, with numerous instances of incomplete citations. What is one to make of endnote 38 to chapter 10, with its maddeningly uninformative reference

"Marginson, 'Going Global,'" especially if the reader has not been consulting all the endnotes? A backward search through the earlier endnotes to chapter 10 does not immediately produce the Marginson citation, even though it is actually quite nearby. Why? Because the full citation is buried within a long comment in endnote 36. The index, rich in personal names, is of no help: it does not list Marginson. A similar case is the note "See Boyer, *Three Views*," which appears several times. Were users to read *all* the endnotes in their entirety and make their own notes as they read, they might, perhaps, find the full citations from these shortened forms. But it is hard to imagine readers doing this. A consolidated, systematic bibliography would have made follow-on research relatively simple. Nevertheless, reading Kirp's detailed endnotes, many rich in enlightening commentary, is an education in itself. His sources range far beyond scholarly books and journals to include newspapers, magazines, and the Web. Their wide variation demonstrates the richness of his sources and the depth of his research. Many notes contain URLs for Web sites and PDFs.

The index, eleven pages in length, more generous than in many other academic works, suffers from very serious deficiencies that mark the work of an amateur indexer. Several major topics, such as economic issues, higher education, marketplace, are overbroad, duplicate the book's main topics, and carry far too many locators that should have been properly subdivided. *Marketplace* comprises but a single, unsubdivided entry running to three-quarters of a column. *Economic issues*, about two-thirds of a column, is similarly arranged. Both entries are cumbersome and time-consuming to use: Their subentries are merely entered according to their page number sequences and thus are next to useless. These arrangements defy the most elementary principle of ar-

ranging large numbers of subentries: To be serviceable, they must be alphabetized by subtopic, not sequenced by page number. In one instance, a locator purports to point to a page referring to the magazine *U.S. News and World Report*, but the magazine actually discussed on that page is *Time*. Yet, *Time* magazine itself has no index entry. Although the index contains a great many personal names, there is no entry for Rupert Murdoch, the well-known publishing magnate, and none for James Neal, Columbia's University Librarian and Vice President for Information Services. Neal's highly cogent comment on Columbia's failed Fathom project is buried in an endnote on page 295, accessible only under *Fathom*, not under Neal. Several personal name entries lack their full complement of locators.

The work contains a few minor failures in copy editing and proofreading. For example, a branch campus of the University of Missouri is located at Rollo rather than Rolla; Hoover Institute appears in place of the correct Hoover Institution; Adams County in Pennsylvania is incorrectly rendered as Adam County. Endnote 23 to chapter 6 cites a publisher, NABUCO, where NACUBO (The National Association of College and University Business Officers) is meant. One expects better of the Harvard University Press.

However, despite these flaws, Kirp's book is filled with fresh ideas and challenging questions. The author's narrative style is compelling. His somber and sobering conclusions and fundamental questions pose major challenges to higher education's leadership in the twenty-first century.

The reader who turns to Geiger's *Knowledge and Money* is immediately struck by a sharp stylistic contrast. Unlike Kirp's expansive and informal—almost casual—presentation, Geiger's work is abstract and highly condensed, written in the usual formal academic prose, with

main points backed up by hard data in numerous tables and figures. Consequently, Geiger is much more difficult to read than Kirp. Also, the book does not contain any of the juicy, highly personalized political anecdotes, fascinating adventures, and savage details of interdepartmental struggles present in Kirp.

An introduction, six long chapters, thirteen tables, four appendices, sixteen figures, and almost five hundred endnotes support Geiger's main points. Like Kirp, Geiger interviewed administrators, though this fact is not revealed until page 170. In most instances, endnotes are thoroughly documented. It was a pleasure to find no spelling errors or faulty grammar in what is truly a model of expository writing.

Knowledge and Money does not deal with for-profit schools or consortia. Its scope is limited to ninety-nine research universities, thirty-three private and sixty-six public, that focus on both doctoral-level research and undergraduate education. In his first chapter, Geiger analyzes higher education in economic terms: where money comes from and how it is distributed, how institutional prestige is measured, how recruitment of faculty and students is managed, why the percentage of foreign students keeps rising, and how universities compete for faculty, research money, operating funds, and students.

Geiger traces how research activity in the public universities waxed and waned in accordance with the ups and downs of external financial support. In particular, he recounts the influence of the Bayh-Dole Act of 1980, the legislation that permitted universities to own patents arising from federally financed research. He provides keen descriptions of how academic researchers and industry interrelate, especially in the life sciences, where there are "dense interconnections" and an abundance of expertise. Intellectual capital, aided by support from the National Institutes of

Health (NIH) and the pharmaceutical industries, forms the foundation for a new economic construct, "biocapitalism," in which academic knowledge is transformed into intellectual capital upstream and then further transformed, downstream, into salable products.

Geiger explains how and why universities reorganized themselves in the 1980s and thereafter, when government support declined at the same time that government interference or intrusiveness, usually in the form of expensive-to-implement regulations, increased. Geiger even suggests that some of the impetus toward privatization was the result of excessive government regulation: It actually became much easier for higher education to collaborate with industry than to respond to intrusive, impersonal bureaucratic regulations.

Geiger offers an interesting explanation of grade inflation within the elite schools. There is a powerful incentive to retain students, because the act of failing students devastates both income and recruitment. Consequently, he asserts that grade inflation is "notorious in the selective sector" to the point that "lackadaisical students can slide by with little application of effort." Moreover, Geiger observes, students born as Gen-Xers exhibit a sense of entitlement previously unknown in higher education. They expect to be entertained in class; they expect not only good grades, regardless of effort, but also good food: Geiger reports that Cornell "periodically flies in chefs from famous restaurants to prepare gourmet meals."

Kirp and Geiger both convincingly explain how, within one generation, marketing overtook almost all other factors in administering higher education. School rankings published in *U.S. News and World Report* exerted an outsize, undeserved influence. Both authors agree that

the magazine's rankings severely distort the admissions process. Even though schools deplored that rating system as a crude instrument for evaluating "a complex, multidimensional phenomenon," they nevertheless continued to exploit it vigorously. Given that Geiger estimates the current cost of financing a bachelor's degree as approximately \$150,000, about the same cost as buying many a home, it is no wonder that parents and schools apply every effort to maximize return on their investment. Nor is it odd that schools see students as *their* investments.

In the 1980s and following years, both public and private universities sharply changed their traditional undergraduate recruiting styles, focusing ever more vigorously on marketing. Institutions quite openly started viewing students as "consumers" of a "product." Schools became highly student-centered organizations, reflecting their leaders' consciousness of being in strenuous marketing wars—"arms races" Geiger terms these competitions. Each institution appealed to the market by attempting to establish itself as a "brand." Geiger recounts in considerable detail, backed up by hard data in tables and charts, alterations in four major areas: admissions, amenities, support of extracurricular activities, and academics. Before long, he suggests, admissions even assumed priority over classroom instruction. In admissions, he shows how schools raised their tuition charges while offsetting fees with generous aid packages. Schools began to issue fancy, expensive "viewbooks" illustrating attractive features of campus life. In regard to amenities, and completely agreeing with Kirp, he reports that construction of new student centers often resulted in facilities that were, in effect, sophisticated suburban shopping malls, some with upscale stores and wide choices of cuisine.³

Geiger makes it clear that in the “selectivity sweepstakes,” the rich institutions will inevitably win the battle for top students. At the same time, the already wealthy universities actually become wealthier — “not by a little but by a lot” — in the course of the struggle. Both Kirp and Geiger acknowledge that among the elite institutions, money attracts money, much as occurs in matrimony and big business. But the affluence of certain universities has, Geiger claims, “been accompanied by greater dependence on wealthy students, erosion of trust as nonprofit fiduciaries, predatory pricing practices, and seemingly unbounded spending to bolster selectivity.” Not a very nice picture.

In chapter 4, *Universities in the Ecology of Scientific Research*, Geiger carefully explains why universities have come ever closer to the commercial sector. Both behave as complementary forces in new discovery. The commercial firms, in effect, contract out some research to universities as the latter attempt to maintain their basic educational mission. This change occurred even though some funds were coming from federal sources. Geiger shows how, beginning in the 1950s, the NIH expanded its research grants to medical schools by a factor of fifteen over a decade, thus totally transforming university-based medical research within a short time. Lucrative revenue from faculty medical practice (income derived from faculty members’ clinical practice) increased by a factor of five in the decade between the 1970s and the 1980s, “enhanced by the creation of Medicare and Medicaid in the 1960s.” Advances in molecular biology and genomics essentially allowed medical research to become “a world of its own.” All these developments fostered greater autonomy for medical research units in universities, increased their connectedness to the commercial sector for exploitation of their discoveries, and enlarged income.

In chapter 4, Geiger observes that the University of California, particularly Berkeley, maintains its excellence because both citizens and politicians expect that institution to be the best of its kind. Correspondingly, he notes that Michigan, lacking the same degree of public support, aggressively seeks out private money to supplement its budget and charges substantially greater fees to out-of-state students.

Chapter 5 discusses the complexities of the university–private economy relationship in the context of the proliferation of ORUs (Organized Research Units), which were originally designed expressly to respond to defense and cold war needs. Examples include Caltech’s Jet Propulsion Laboratory and Johns Hopkins’s Applied Physics Laboratory, both of which became larger than their host institutions. In essence, ORUs attracted outside money in support of missions that “far exceeded any corresponding educational tasks.” Geiger has a good answer for those who complain that industry’s secrecy requirements negate the university’s mission to publicize its research findings. He avers that the time between discovery and application is actually very brief, that a decision to patent or publish must be made with dispatch. Geiger also rebuts the persistent anxiety that close university–industry connections would stifle “disinterested research”: exactly the opposite has occurred, he suggests. Far from encouraging secrecy among researchers, the commercial connection has resulted in its antithesis. Close ties have fostered collaboration, especially among life scientists. But Geiger does not address this issue for the humanities and does not raise Kirp’s concerns about academic research outside the sciences where it is unlikely to generate profits.

Scattered throughout Geiger’s book are informative discussions of what happens to ICR (Indirect Cost Recovery)—the

very contentious pot of overhead money generated from research grants—and how that money influences the structure and financing of academic programs. Some states kept the entirety of indirect cost recovery. At one time, Utah demanded that 70 percent of ICR be returned to the state to be used for other purposes, whereas Michigan permitted whatever academic unit that generated the ICR to retain all of it. A very interesting observation, also in chapter 5, is the fact that university-supported research on behalf of industry imparts knowledge to the commercial sector at a greatly subsidized price—because overhead costs at a university lab are far, far below what they would be at an industrial equivalent.

Geiger suggests that privatization also can be viewed as an “escape route” from the inability of public institutions to gain strong legislative support for both undergraduate education and research. He puts it rather bluntly: “The generation of private revenues became the means for building the academic quality that states refused to support.” Private universities took the same route to keep from standing still, which they considered tantamount to falling behind.

In chapter 5, Geiger closely examines the university–industry research linkage in terms of seller–buyer relationships, the ebb and flow of government financial support, and the conflicting goals inherent in that relationship, with industry seeking profit and nondisclosure and the university focusing on advancement of knowledge and its open dissemination. In this same chapter, the author describes in considerable detail the university–industry relationship at Pennsylvania State University, his own school. Very often, it turns out, a university does not actually “develop” inventions for industry but, rather, enhances a company’s own R&D efforts by providing highly specialized expertise not available elsewhere.

The development of Silicon Valley is the best-known demonstration of symbiosis and reciprocity between higher education and industry. The emergence of industrial parks and business “incubators” at Stanford and at the Research Triangle provides dramatic evidence of the power of mere proximity. Yet, as Geiger points out, the industry–university relationship, though “simple in theory,” is “subtle in reality.” This characterization might actually apply to the entire subject matter of *Knowledge and Money*, where nothing is as plain and direct as it first appears. The entire dynamic field is filled with ambiguity and uncertainty. It is a tribute to Geiger’s writing skill that he is able to explicate the complexities of the university–industry relationship in a very understandable way.

Basically, *Knowledge and Money* is a study of technology transfer and exchange between academe and industry, with a very strong focus on biotechnology. Chapter 5 illustrates the enormous growth of patents within the university community and the emergence of technology transfer offices (TTOs). For industry, writes Geiger, the purpose of patents is to aid in making a unique product whereas, for universities, the chief end of patents is to produce revenue: for universities “patents *are* the product” [emphasis added]. Licensing revenue in 1999 was such that, taken together, the universities in Geiger’s study earned close to \$700 million. Of this total nearly 75 percent was taken in by the sixteen most active, with Columbia and the University of California at the head of the pack of those institutions having the most powerful commercial ties. The considerable difference between the life sciences and the physical sciences is evidenced by the far greater economic value of patents in the biosciences than in, say, physics. This higher value, Geiger explains, is based on “jackpot patenting”—the assertion of ownership of fun-

damental processes that form the basis for future technologies and hence are the most lucrative initially and have the greatest potential for future income.

Succinct and compact, the index to Geiger's work (comprising four full pages) lacks headings for a number of concepts given considerable attention throughout the work itself: brand name, elitism, genomics, inflation, interdisciplinary studies, jackpot patenting, political correctness, "sticker price," student loan culture, testing industry. These are topics the serious reader may wish to return to, but the index makes that nearly impossible. Index entries for several important subjects (e.g., privatization and entrepreneurship) are very sparse, although the book is filled with discussions of these topics. A valuable figure referenced numerous times, Feedback Loop for Qualitative Competition among Selective Institutions, is not indexed, though it can be easily located from the table of contents. Geiger's main index entries have only a few subheadings that seem to be arranged in no particular order. However, because of their very small number, it is not troublesome to scan them quickly for an item of interest. On the plus side, some endnotes are indexed by both author and subject.

Knowledge and Money is very tightly organized, with each chapter's scope and content carefully defined at its beginning. There is no mistaking where the author is headed. It is a book for study, not for speed reading. All its arguments and explanations require thoughtful review, and often, repeated readings of the same sentence or paragraph. Geiger's language is lean and taut, formal and restrained—there are no "buckets of money" in his presentation. In fact, his text occasionally employs very formal terms, some rare or archaic (e.g., *fisc* for the university's treasury; *crecive* for gradually, steadily growing; *calculus* for the interoperational influence of multiple factors). Geiger's articulation of the

financial and political issues in higher education is invariably condensed and precise, without any troubling vagueness. Demonstrating an amazing economy of expression, Geiger can say a great deal with relatively few words. In sum, there is hardly a single superfluous sentence in *Knowledge and Money*.

Conclusion. As federal and state support for higher education in the U.S. began to decline in the latter decades of the twentieth century, institutions inevitably sought funds from other sources, most notably from the commercial sector and the recruitment of foreign students.⁴ One major impact of this funding shift was that, in some universities, certain professional schools boldly began asserting their autonomy, virtually privatizing themselves and often successfully severing themselves from central administrative oversight. A second major impact was the emergence of commercial institutions of higher education, including for-profit units, as well as those originating within the high-tech community itself. In the 1980s, for-profit institutions such as the University of Phoenix and DeVry University, having achieved accreditation, began expanding their influence. Firms such as Microsoft and Cisco began educational programs leading to certification for hardware and software technicians with expertise specific to their own products and services.

Beginning in the 1980s, Kirp and Geiger suggest that with the establishment of the aforementioned university-sponsored incubators, the formation of industrial parks adjacent to campuses, and the creation of formal technology transfer programs, the relationship between the university and industry changed nationally and radically, becoming highly rationalized: a sea change. What of the future? Both Kirp and Geiger believe that this link, totally unforeseeable in 1925, is now irreversible—a permanent feature of the nation's research environ-

ment. Geiger puts it best: "The commercialization of university research at the dawn of the twenty-first century would seem to possess an inexorable momentum." Both books complement each other very well and are rich sources for further research. It is a pity that neither work provides a systematically arranged bibliography. It is worth noting that nothing in either book hints at the potential impact of these new arrangements on academic/research libraries, nor are the great national, computerized bibliographic networks even mentioned.

Both titles are recommended for university research libraries, large public libraries, and the libraries of schools of education and business. Both would be invaluable for major university officers, faculty, laboratory directors, members of boards of regents, and legislators. — *Allen B. Veaner, University of Arizona.*

1. A spate of works on the academic-industry connection has been published in recent years, and most are cited by both Kirp and Geiger. Perhaps the most prominent of the new titles is the recently reviewed *Universities in the Marketplace: The Commercialization of Higher Education* (Princeton 2003), by Derek Bok, retired president of Harvard (*C&RL* 65, no. 1 [Jan. 2004]: 78–81).

2. Stephen M. Ross's recent \$100 million gift to the University of Michigan's business school—the largest ever to any business school—may ultimately result in a degree of autonomy from the main university administration comparable to that at the University of Virginia.

3. In this last category, a recent news item on the Web noted that in 2004 the University of Texas was forced to issue a booklet, "Avoid the Freshman 15," a reference to the fifteen pounds that, on average, freshmen gain their first school year away from home.

4. That this is not just a U.S. phenomenon is attested to by the rise of the "enterprise university" in Australia, a development analyzed by Simon Marginson and Mark Considine in *The Enterprise University: Power, Governance and Reinvention in Australia* (Cambridge University Press 2000). Many of the influences and forces summarized in Kirp and Geiger are even more powerfully operative among Australian universities, where income from foreign ventures has become essential to survival.

Libraries without Walls 5: The Distributed Delivery of Library and Information Services. Eds. Peter Brophy, Shelagh Fisher, and Jenny Craven. London: Facet, 2004. 269p. £44.95 (ISBN 1856045110).

Libraries without Walls contains the proceedings of the fifth Libraries without Walls Conference held in Lesvos, Greece, in September 2003. This and previous conferences have been designed to bring together participants from around the world to discuss, from an international perspective, access to materials and services by patrons external to the actual bricks-and-mortar library. As the editors of this volume note, when the conference was first held in 1995, participants concerned themselves primarily with issues of distance learning and related matters. Eight years later, however, technological advances have changed the focus of the conference to the provision of services or materials to people who used them "remotely," which, paradoxically, often means within the very site of the library itself.

The book contains twenty-four papers grouped together under five main topics or "themes." Theme one deals with the integration of library services and virtual learning environments. A variety of issues is addressed, including how to provide staff with the skills and training required to deal with new library services in support of e-learning. How the library as a whole might work collaboratively in this relatively new environment also is considered.

Theme two discusses the relationship among user needs, information skills, and information literacies. The papers here examine the pros and cons of generic versus customized information skills packages delivered via e-learning. Also addressed is how to respond to the needs of traditional and nontraditional students in this setting.