

11-1-1998

The Revolution in Higher Education

James V. Koch

Follow this and additional works at: <http://scholarship.richmond.edu/pilr>



Part of the [Education Law Commons](#)

Recommended Citation

James V. Koch, *The Revolution in Higher Education*, 3 RICH. J.L. & PUB. INT. 145 (1998).

Available at: <http://scholarship.richmond.edu/pilr/vol3/iss2/4>

This Article is brought to you for free and open access by the Law School Journals at UR Scholarship Repository. It has been accepted for inclusion in Richmond Public Interest Law Review by an authorized administrator of UR Scholarship Repository. For more information, please contact scholarshiprepository@richmond.edu.

THE REVOLUTION IN HIGHER EDUCATION

James V. Koch*

Now there's going to be a revolution in higher education. Whether you like it not, it's going to be broken apart and put back together differently. It won't be the same. Why should it be? Why should everything change except for higher education?

-- James F. Carlin, Chairman
Massachusetts Board of Higher Education⁵⁹

Joseph Schumpeter, the Austrian born economist and social historian who spent a major part of his academic career at Harvard, was a cogent observer of how societies develop. His *Capitalism, Socialism, and Democracy*⁶⁰ is still considered a classic. Schumpeter spoke of "perennial gales of creative destruction" (often technological) that shock societies and force change. The advent of electricity and the coming of the automobile illustrate technologies that created new power arrangements and destroyed or modified existing institutions.

Higher education is now in the midst of a Schumpeterian "gale of creative destruction"--a revolution, many say. After almost 150 years of reliance upon a model of higher education that was borrowed substantially from the Germans and the British, a fundamentally new model is developing. The old model has been based upon staples such as courses, credit hours, 50 minute lectures, Monday through Friday course schedules, and semesters. In many of its incarnations, it has been supplemented with fraternities, football teams, and a variety of other social activities that occur on a "home" campus that usually features many youthful students who reside on or near that campus. Traditionally, the colleges and universities operating in this framework have functioned as self-contained small towns in the sense that they provide their own housing, food, entertainment, transportation, and the like. And, the institutions that have become household names for one reason or another such as Harvard, Michigan, Florida State, and the University of Nevada at Las Vegas have largely operated on a non-profit basis such that the

* President, Old Dominion University

⁵⁹ William H. Honan, *The Ivory Tower Under Siege: Everyone Else Has Downsized, Why Not the Academy?*, N.Y. TIMES, Jan. 4, 1998, at 33.

⁶⁰ JOSEPH A SCHUMPTER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* (1976).

attendance of an individual student has been highly subsidized by non-students.

With respect to academic work per se, the predominant paradigm has been termed the "teaching model" because it has emphasized students "coming to the information" by attending approximately 45 lectures delivered by faculty at an appointed time and place on a home campus during a semester. All of this occurs in virtual lockstep and rare is the student who breaks away from the usual cadence. Examinations are given at the end of the semester; two semesters make one academic year; and, four years of such activity translate into a bachelor's degree.

The Emergence Of the "Learning Model"

Although the teaching model is not going to disappear, it is gradually becoming less important. There are several reasons for this. First, learner-driven strategies and technologies have transformed higher education by frequently shifting the physical scene of action away from home campuses. Both interactive television and the Internet have made it possible for students to complete accredited higher education at home, their places of work, on their commuter train, or even on a ship at sea.

Second, new technologies are gradually changing higher education from a time-based exercise in which students in a given class usually advance in cadence to a competency-based process to a method in which students move at their own pace and seek out the times, places, and learning approaches that best suit their needs. The newly emerging paradigm, often termed the "learning model," provides students with more options and is yet another way in which competition has been introduced into the higher education marketplace, even in the most remote geographic locations.

Third, remarkable demographic changes have wrought dramatic changes in the identity of the individuals who demand higher education. In 1900, higher education was a rather elite activity undertaken at private institutions, usually religiously affiliated, by slightly more than one million students who were nearly all white males pursuing full-time study. One hundred years later, higher education enrollments total almost 15 million, almost 56 percent are women, almost 26 percent are members of minority groups, and almost 44 percent are part-time.⁶¹

⁶¹ U.S. DEP'T OF EDUC., OFFICE OF EDUCATIONAL RESEARCH AND DEVELOPMENT, NATIONAL CTR. FOR EDUCATIONAL STATISTICS, MINI-DIGEST OF EDUCATION STATISTICS: 1997 (Washington, DC: U.S. Government Printing Office 1998), 17 tbl. 7, 19 tbl. 9, 21 tbl. 10.

Fourth, more than 78 percent of all college students today are educated in public institutions.⁶² This is relevant for several reasons, among which is the fact that American legislative bodies have scaled back their financial support of higher education, at least relatively speaking. Higher education no longer receives special, favored legislative treatment in most legislative halls. Whereas higher education appropriations occupied almost 16 percent of state government budgets in 1980, by 1995 this had fallen to less than 12 percent.⁶³ While the reasons for this change are complex, its effects are manifest. Faced with public financial support that has declined in "real" terms after price inflation has been taken into account, public colleges and universities have: raised their prices rapidly; cultivated new student populations; especially part-time and off-campus students; privatized and outsourced numerous campus activities; changed their academic schedules; substituted technology for people and written materials wherever possible; begun huge fund-raising campaigns; felt the sting of competition from private, profit-oriented institutions; increased their reliance upon part-time and adjunct faculty members; and, increased the number of non-credit activities that they sponsor.

Parenthetically, I should note that independent institutions have not been immune from these same challenges and to one extent or another, even the most prestigious among them have been forced to change their modes of operation. Higher education institutions of all types now openly compete for students and revenue. Only a few decades ago, these activities were considered by some to be rather Philistine. Even the elite now behave according to what has been admonishingly termed for many years as "the corporate model." Witness Yale University being harshly labeled a selfish capitalist after it took a hard stance when its graduate assistants went on strike.

Fifth, the new paradigm poses a real threat to faculty, who no longer exercise a monopoly over the transmission of knowledge and learning. Students may substitute tapes, television lectures, their own reading and intellectual exploration, and real world experiences for the traditional 50 minute faculty lead classroom session.

Sixth, the new approach invites rigorous competition among institutions--including some that are profit-oriented--to supply experiences that demonstrably result in specific learning in a specific time period for a specific price. Consider that Motorola University in Illinois offers 317 courses to Motorola employees, all of whom must complete 40 hours of training per year. The courses range from German language instruction to use of a spreadsheet. Why is Motorola doing this? Because it believes that universities have failed to fill its needs and, as Eli Noam of Columbia

⁶² *See id.* at 17.

⁶³ STATE COUNCIL OF HIGHER EDUCATION IN VIRGINIA.

University puts it, commercial organizations have fewer, or least a different set of, sacred cows.⁶⁴ Motorola, IBM, National Semiconductor, Ford Heavy Truck, Hart Schaffner and Marx, the Patent and Trademark Office, Land Rover North America, Salomon Brothers Smith Barney, and Merck are among firms and agencies that now provide most of their employee education "in house." National Semiconductor University, for example, offers master's degrees in business and in electrical engineering and several bachelor's and associate degrees.

An estimated 1,000 corporations now sponsor their own universities, many of which have attained reputations for innovations in the design and delivery of on-demand higher education. Explicitly, these corporations are telling American colleges and universities that they have failed to meet their needs and as a result big businesses have decided to meet their educational needs themselves. If conventional higher education is not disturbed about this trend, it should be.

Seventh, the new competition, among institutions of higher education, has resulted in the rise of a spate of regionally accredited "for profit" higher education institutions. There was a time when virtually no regionally accredited "for profit" institutions of higher education existed in the United States. Now, however, a profit-oriented institution such as the University of Phoenix claims more than 48,000 students nationwide and rapidly growing Strayer University raises capital in the financial markets as if it were Hewlett-Packard or CSX. Strayer has no difficulty in finding sources of capital because the consensus on Wall Street (and perhaps Main Street) is that Strayer is marching into a void and addressing an unmet need for education and job-related training.

Eighth, the advent of new technologies and student options are likely to cause many universities to be boiled down to their component functions--guidance, instruction, credentialing, knowledge generation, and the like. In the 21st century, independent entities may perform each of these functions. For example, it is possible that some universities will function primarily as credentialing agents, certifying that students have achieved a given level of proficiency in a field, regardless of how they accomplished that feat. Other institutions may specialize in instruction. In the near future, "super professors" may offer specific lectures that are seen nationwide by students who then interact with local faculty and technology to further their learning. Still other institutions may function primarily as research institutes only loosely related to today's universities. This is a structure that always has been more common in Europe and Asia, and it may now spread widely inside the United States. Some feel that a motivating factor in this educational evolution is the growing

⁶⁴ See generally Eli Noam, *On the Future of the University*, EDUCOM REV., July–Aug. 1996, at 38–41.

disillusionment of many parents and students with what they feel is the unavailability and mediocre teaching of big-time, research-oriented faculty.⁶⁵

The learning model that is replacing the teaching model in much of higher education is notable for its reliance upon technology. Both interactive television and the Internet have made it possible for students to complete accredited higher education at home, their place of work, on their commuter train, or even on a ship at sea. More will be said about this phenomenon below, for it will be one of the driving influences in 21st century higher education.

Changing Public Perceptions of Higher Education

The revolution that is occurring in higher education is being fueled at least partially by changing public perceptions of higher education and persistent citizen inquiries regarding nearly every aspect of higher education--its purpose, its mode of operation, its efficiency, its costs, the workloads of professors, the courses that students take, and so forth. Charles Mahtesian neatly summarized the deteriorating public view of higher education with his article "Higher Ed: The No-Longer Sacred Cow."⁶⁶ This deteriorating public view is also evidenced by the title of a recent New York Times article - "The Ivory Tower Under Siege: Everyone Else Has Downsized, Why Not The Academy?"⁶⁷

James F. Carlin, the Chairman of the Massachusetts Board of Higher Education, recently verbalized what has been on the minds of many members of the public when he asserted that:

Since the end of World War II, there has been enormous change. People have moved from cities to suburbs, the interstate highways revolutionized transportation, telecommunications has gone through the roof, and there's been major revolution in health care. Now there's going to be a revolution in higher education. Whether you like it or not, it's going to be broken apart and put back together differently. It won't be the same. Why should it be? Why should everything change except for higher education?⁶⁸

How can it be that higher education is subject to such attacks when public opinion surveys reveal that citizens believe that higher education is

⁶⁵ See Robin Wilson, *Report Blasts Universities for Poor Teaching of Undergraduates*, CHRON. OF HIGHER EDUC., Apr. 24, 1998, at A12, A12-13.

⁶⁶ Charles Mahtesian, *Higher Ed: The No-Longer Sacred Cow*, 8 GOVERNING 20, 20-26 (1995).

⁶⁷ Honan, *supra* note 1.

⁶⁸ *Id.*

essential for personal and societal progress?⁶⁹ The answer appears to be that while the public believes that higher education is vitally important, it also believes that it is run inefficiently and that by and large colleges and universities serve the needs of professors and administrators rather than students and citizens. The institution of faculty tenure, for example, "evokes nearly universal contempt from leaders."⁷⁰ Further, a majority of individuals believe that higher education is overpriced and that many of the courses being taught and much of the research being conducted are of doubtful value. As Carlin of Massachusetts put it bluntly, "At least 50 percent of all non-hard sciences research on American campuses is a lot of foolishness!"⁷¹

Those who argue that American higher education has gone astray often target the faculty in particular. Fairly or not, tenured faculty are seen as not teaching enough because they are permitted to set their own work rules. Additionally, they are viewed as not spending sufficient time with students, and are perceived to be highly resistant to change. The sneer-evoking image of a professor mowing his lawn at 2:00 p.m. in the afternoon often carries with it the public perception that traditional higher education is ripe for reform yet will not reform itself.

The public, then, is calling for institutions of higher education to change the ways they conduct their business. It would be naive not to see this as a major impetus to the escalating upheaval that is occurring in America's colleges and universities.

A Closer Look At The Learning Model

Since the learning model is the primary paradigm for the revolution in higher education, it would be wise for us to examine it more closely. The new learning model challenges conventional higher education on several counts. It is clear that it places strong emphasis upon "educational value added." In order to prosper in an increasingly competitive world, colleges must demonstrate that they can add knowledge to their students, not merely that they are capable of graduating already gifted students who entered with impressive SAT scores. Further, in this new regime, students progress as they can demonstrate learning, whether or not they have accumulated "seat time" by attending faculty lectures.

An important feature of the learning model is that students become higher education "shoppers" who are more interested than ever before in specific learning outcomes, job guarantees, and prices. In this new world,

⁶⁹ See John Immerwahr & James Harvey, *What the Public Thinks of Colleges*, CHRON. OF HIGHER EDUC., May 12, 1995, at B1, B1-B2.

⁷⁰ See *id.* at B2.

⁷¹ Honan, *supra* note 1.

they are able to say: "Can you show me that I really will be able to pass the C.P.A. examination and how expensive is your approach compared to my alternatives?" No longer are they captives of the local institution, or subject to the whims of the only institution in their state that happens to offer a particular academic program.

The learning model does pose a threat to existing faculty members, who no longer are the fountain source of knowledge and learning. In addition to the possibility that students may substitute televised lectures, Internet-based courses and discussions, tapes, and their own reading and intellectual exploration for the traditional 50 minute class session that faculty lead, they also may demonstrate that they have learned by means of their own real world experiences. Of course, this latter phenomenon--experiential learning--is hardly new. An American student who lives in Germany and returns to the United States with a fluency in German, can attend most colleges, demonstrate their proficiency in German language, and receive credit. This paradigm will now be extended to nearly every corner of the modern University, the end result being that many faculty will become "certifiers" of learning rather than teachers and transmitters in the traditional sense.

Distance Learning: The Centerpiece of the Revolution?

Almost a century ago, land grant state universities initiated correspondence and extension courses. However, beginning in the 1950s, a few college and universities began to use television to transmit courses to students in remote locations. These courses typically were fairly crude because the instructor often was not trained for the task, he/she was tied to a specific spot in a studio, there was little in the way of non-lecture visual aids, and there was no opportunity for students to interact with the professor, or with each other.

Distance learning today is another matter altogether and approximates a 'Heinz's 57 of varieties.' Courses may be delivered via an ordinary television signal; over cable television hookup that can involve very high speed modems; via satellite uplinks and downlinks; over the Internet; over ordinary telephone lines; and, of course, by a combination of these techniques. These courses may be synchronous (real-time, same instant communication between instructor and student) or asynchronous (student may contact the instructor or access course materials electronically at 2:00 a.m., but receive a response at 10:00 a.m.).

Many distance learning courses today combine synchronous and asynchronous techniques. Thus, students in a remote location may receive two hours of lecture per week via a satellite television connection, and then participate two hours per week in Internet chat room, e-mail, library

research, and simulation activities. Students may prepare for the lectures, or for the chat room discussions, by downloading background materials from an Internet home page that exists for each course. Or, they may be asked to access Bloomberg's business data system via a cable modem hookup, or the CNN Financial Network on the Internet, in order to prepare themselves to present research on a particular company or industry.

Whatever the technology utilized in distance learning, its essence is the overcoming of any physical separation of student and faculty member. At the same time, it dramatically alters the time based learning that has characterized higher education for centuries. Consider Old Dominion University offering live M.B.A. instruction to U.S. Navy personnel on the aircraft carrier George Washington in the Persian Gulf,⁷² or Monterrey Tech sending accredited business and engineering courses to a half dozen Latin American countries. The point is that one need not be in the same room, or even in the same country, as a faculty member because of distance learning.

Perhaps more important, however, is the fact that students increasingly are able to learn at their own pace, and to do so in their own preferred way. A student who wants to "do" a course at midnight may do so; the student who wants to call up and view a recorded lecture from a remote computer server on Saturday evening may do so; the student who decides to respond via e-mail to another student's comments before she leaves for work at 6:00 a.m. may do so. The student who wants to progress rapidly may do so; however, the student who needs to go more slowly may do so as well. Thus, today's distance learning student need not be physically present in a classroom, or sitting next to a student colleague, to become educated. Distance learning brings the 'learning model' to the forefront.

Where is all of this headed? The answer is, into your office, your living room, or, indeed, into any place where one or more of these technologies can reach you. Already, an Internet access provider such as @Home is providing high quality, "full stream" video over the Internet by means of very high speed cable modems. The quality of these transmissions closely approximates regular television, and permits real-time, simultaneous discussion and interaction between people on the network. Yet, these programs can be received by any television or microcomputer connected to @Home. Since @Home is jointly owned by a group that includes the cable giants Cox and TCI, it has the potential to reach 60 percent of all U.S. homes. Other Internet content providers such as Media One are developing similar systems and a variety of telephone companies are running advanced experiments with ADSL (Advanced Digital Subscriber Line) technology that will permit very high quality

⁷² See Kelly McCollum, *All M.B.A.'s on Deck!*, CHRON. OF HIGHER EDUC., Apr. 17, 1998, at A27, A27-A28.

voice, video, and data transmissions to be delivered over ordinary copper telephone lines.

It would be a mistake to miss the tremendous import of these developments. This means that one university course, say Principles of Microeconomics, can be delivered simultaneously and interactively into every home and office in the United States. A student located in Birmingham, Alabama, will be able to ask an instructor (who may be located in New York City) questions, talk with students in Arizona and Vermont, participate in electronic chat rooms discussions that may last hours or days, access and download digital library materials, register for their classes, pay college bills, interview for jobs, obtain financial aid, and conduct electronic experiments and simulations using technology. And, students will be able to do all of this at highly competitive prices that may well undercut their local institution of higher education.

If existing institutions of higher education do not see these developments as competition, then, simply speaking, they are asleep. Who is most vulnerable? Those institutions that:

- Have not established their own distinctive niche
- Do not already have impressive revenue sources and endowments
- Are small, relatively undistinguished liberal arts colleges or public institutions without large groups of dedicated alumni and friends
- Are not located in or near a large urban area
- Are not attractive to the most rapidly growing segments of higher education student bodies, namely, women, minorities, and part-time students
- Have failed to restrain their costs and easily can be undercut in price
- Offer programs that are viewed by students as being out of date, for example, programs that do not incorporate modern technology
- Are excessively dependent upon student tuition as a revenue source
- Are not seen by business and governmental leaders as contributing visibly to job creation and workforce development
- Are burdened by ineffective leadership that has not provided an effective vision for the institution

If higher education can be characterized as an economic "industry" (and there is debate about this), then the "firms" in the industry (colleges and universities) today often exhibit changing "market shares" (enrollments). While overall enrollments in higher education have been expanding in recent years, and it is likely that they will continue to expand

into the foreseeable future, it is quite another story for individual colleges and university enrollments. Perhaps 25 percent of American institutions of higher education have experienced declining enrollments in recent years. This has led them to react in some or all of the following ways by:

- Lowering their admission standards
- Lowering their prices or "discounting" their tuition by offering increased scholarship aid
- Cutting programs and people
- Increasing their flexibility by reducing the incidence of faculty tenure and other longer term employment obligations
- Forgoing disciplinary accreditation in areas such as business, education, engineering, or nursing
- Focusing upon new markets that often include part-time, adult, weekend, or non-credit students
- Attempting to raise more non-tuition revenue via capital campaigns, partnerships, and sale of their services.

The powerful new technologies driving the expansion of distance learning will accelerate these detrimental developments in higher education. In the next decade we will see the outright demise of some institutions, a limited numbers of mergers of one institution into another, and the relative impoverishment of institutions that cannot compete. Schumpeter's "perennial waves of creative destruction" will be writ large in American higher education in the next few years.

Privatization and Outsourcing: An Increasingly Important Trend

Let's begin with two definitions. Privatization refers to a situation where public college or university asks a non-public, outside organization to assume responsibility for supplying a particular service or the completion of a specific task. For example, the private food provider, Aramark, is often contracted to operate an institution's food service. Privatization is a subcategory of outsourcing, which describes the most general case where any organization, public or private, asks a different organization to assume responsibility for a service or task. As such, Northwestern University might outsource its book store to Barnes and Noble.

Rare is the college or university that has not undertaken some degree of privatization or outsourcing of its services. This has occurred for two reasons. One reason is very straightforward; many institutions have found that other organizations can perform a specific function (say, operating the campus book store) more efficiently and profitably than they can. This superior performance presumably can improve the quality of service and, at the same time, earn revenue for the institution. The other major motivation for privatization and outsourcing is that they enable a campus

to "sell" its risk to someone else. Certain campus operations are potentially subject to large variations in demand. Campus housing provides such an example because changes in student enrollment patterns can result in empty residence halls and financial problems. However, if the institution has contracted with an outside provider, say Campus Hospitality Corporation of Maryland, to operate its residence halls, then a decline in demand for residence hall space must be handled by Campus Hospitality and not the institution.

Now, to be sure, very few economic agents knowledgeably bear additional risk without being compensated for it, and Campus Hospitality eventually will make the academic institution pay for any losses that it incurs. Nonetheless, that reaction will be delayed and can be anticipated. Further, it may well be that Campus Hospitality is better equipped to advertise residence hall living and to do those things necessary to make the residence halls more attractive to students than the college or university. The point is that Campus Hospitality is profit-driven and hence has a strong incentive to succeed.

The typical college or university faces the economic bottom line in a much less direct fashion and its employees are much less likely to lose their jobs if they provide a particular service at a financial loss. Many in number are campuses that have lost money providing a particular service (and the examples range from food services and football to faculty clubs). Sometimes the reason for this is a simple, "We really didn't know we were losing money." More likely, however, is that an institution provided service has represented a deliberate subsidy to students, faculty, staff, or alumni, and as such, no one really had an incentive to change the institution's behavior. Increased competition among universities, especially in terms of price and service quality, has changed this mosaic resulting in a steady tide of privatization and outsourcing in recent years.

When do privatization and outsourcing work the best? They usually outperform the "we'll do it ourselves" model when the nature of the service or task in question is such that there is immediate and obvious profit and loss feedback to the supplier and when consumers have options. Consider food services. Either students purchase food from the supplier, or they don't. The effect upon the bottom line of the supplier is immediate and obvious and the supplier changes his/her behavior quickly in response to these signals. This relationship is accentuated when hungry students have the opportunity to leave the campus to purchase meals elsewhere. In such a situation, if the food service is outsourced, then the supplier is likely to offer quality food, attractively priced, in an inviting atmosphere. There is a direct market test that food suppliers face here and that test typically yields good results. In general, outsourcing often works well when the service or task in question is easily measured, highly visible,

subject to the incentives and penalties of the profit motive, and alternative suppliers exist.

Less appealing results are likely if the supplier of the service is not immediately rewarded/penalized in the marketplace when he/she succeeds or fails to perform. Consider housekeeping. If rooms on a campus are not cleaned as thoroughly as one would like, or as quickly as one might prefer, there is no immediate marketplace penalty. First, no one may notice or complain for some period of time. Second, students, faculty, and staff can't walk off campus on a moment's notice and negotiate with someone else to have their offices cleaned. Consequently, a privatized or outsourced housekeeping firm does not face strong incentives or penalties for its behavior and, for that matter, neither do the end users of the service--students, faculty, and staff.

Which campus services seem to be amenable to privatization and outsourcing? Food services, entertainment, the provision of campus vehicles, printing, copying, concessions at athletic events, book stores, and perhaps residence halls, are on this list of campus services which may reap benefits for the institution if they are outsourced. On the other hand, the list of "it often may not work well" includes housekeeping, grounds and campus beautification, and building maintenance. Campus security and computer services, depending upon the circumstances, may or may not produce better results when outsourced.

The motivating lesson here is that few institutions of higher education are likely to be just as proficient 20 years from now at performing all of the tasks that currently occupy them. The result will be a surprising degree of horizontal and vertical disintegration in higher education rather than the integration we have observed elsewhere in the American economy. Interestingly enough, the imperatives of technology appear to be impelling banks and financial institutions to merge because they enable significant economies of scale; however, it appears that the same technologies are among the reason that higher education institutions are less likely to merge and more likely to outsource specific tasks.

Consider the following illustration. There is agreement that significant economies of scale exist in the production and distribution of distance learning, not the least because of the huge fixed technology costs associated with distributing distance learning. Once a distance learning course signal is transmitted into the atmosphere, however, the cost of that signal being received by an additional student usually is very low. Consequently, the bigger the university distance learning provider becomes, the lower its unit costs. This has several implications. For example, many smaller institutions will not be able to provide significant amounts of distance learning in a cost-efficient fashion. Therefore, they

will contract or cooperate with larger suppliers of distance learning rather than attempt the task themselves. Also implicit is that some institutions will specialize in distance learning, just as today some specialize in teaching medical students, or part-time students, or those who reside on military bases. In this case, technology is promoting the division and specialization of labor that Adam Smith⁷³ spoke of more than two centuries ago with the result of more narrow, focused institutions.

But, we should not fail to note that the same trends are apparent in other arenas. Technology also has made tasks such as the management of college endowments, the ordering and provision of library journals and books, and certain aspects of student financial aid administration such that many colleges and universities are discouraged from attempting to do these tasks themselves. The moral is that an increasing number of colleges and universities are deciding that they will no longer choose to do many jobs themselves. Rather than becoming multi-product conglomerates, increasingly they will tend to reduce their product line and focus their efforts.

If one can outsource a book store, then (in theory) one can outsource a lecture, a roundtable, an academic course, or even a complete degree program. Already, this is occurring, primarily through reliance upon technology. In particular, smaller colleges find it wise to import courses and degree programs from larger institutions. Consider Mt. Olive College in North Carolina, which (inter alia) imports engineering technology degree programs from Old Dominion University. Mt. Olive cannot afford to offer such a program and believes that it will be more attractive to students if it offers such a program on its campus.

This cooperative model is endemic in other parts of the world. For example, in Latin America, where a large, 40,000 student institution such as the Instituto Tecnológico de Monterrey (México) operates more than 500 distance learning sites in a half dozen countries. Many of these are located on the campuses of other, financially less well-heeled colleges and universities. Monterrey, by utilizing satellite delivery of real-time courses and a variety of other technologies (including interactive group discussions on the Internet and e-mail), provides these receiving campuses both with programs they do not offer and with faculty members whose credentials are superior to any available on the receiving campuses.

One need not be a visionary to see a world in which a portion of many American college courses (in some cases, all of a course) are taught by nationally renowned experts who provide one to three hours of lecture per

⁷³ ADAM SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* (R.H. Campbell & A.S. Skinner eds., 2d ed., Clarendon Press, Oxford 1976) (1880).

week to hundreds, even thousands of students nationwide. Imagine a world in which a large, prestigious institution such as the University of California, Berkeley, teams up with Microsoft and Disney to provide scores of courses and degree programs. Such courses and programs will feature highly qualified faculty, offer an attractive presentation of materials and information, significant interaction and prices that will undercut most independent and many public institutions. Additionally, students will be able to receive such courses and programs in a variety of ways--on their television sets via cable modems that are 100 times faster than current microcomputer modems; via "full stream video" delivered to individual microcomputers; and, through, well endowed electronic classrooms at colleges and universities, military bases, and businesses. Indeed, many of educational visions are already occurring in the United States, although of these possibilities, only the electronic classrooms are beyond infancy.

There are several lessons here. One is that privatization and outsourcing are not going to be confined to non-academic pursuits. Another is that every institution of higher education in the United States is going to face rigorous competition from fully accredited, cost competitive rivals who often will be highly focused and specialized. The march toward Clark Kerr's "multiversity" has, at the very least, slowed to a walk and appears to have reversed itself on many campuses.

Intriguingly, some of this unprecedented competition will not come from today's stable of "conventional" colleges and universities. Instead, much is likely to come from "for profit" competitors such as the aforementioned Motorola University and from new upstart, entrepreneurial competitors such as the University of Phoenix, DeVry Tech, ITT Educational Services, and Strayer College. When that competition arrives, the higher education establishment typically reacts (unsuccessfully) by attempting to utilize state higher education authorities to prevent or exclude this competition on the grounds that it exhibits one of the "uns." That is, the new competition is *unfair*, *unregulated*, *unnneeded*, or of *unacceptably* low quality. Eleven Maryland colleges and universities (independent and public) recently attempted to persuade the Maryland Higher Education Commission to deny the proposal of the University of Phoenix to open three campuses in the state. They failed, because the Commission, in response to severe personnel shortages in Washington, D.C. area information technology industries, concluded that there appeared to be a need for what the University of Phoenix had to offer. Only Freeman Hrabowsky, the President of the University of Maryland, Baltimore County, read the tea leaves appropriately. He correctly inferred that this was a wake up call for Maryland higher

education.⁷⁴ The truth is that if it is not the University of Phoenix that invades the turf of Maryland and other states, then it will be the Western Governor's University, the Southern Regional Electronic Campus, or England's Open University.

Higher Education As A Subsidized Industry And The Tendency Toward Convergence

In 1997, the average cost of educating an independent college or university student exceeded \$16,000 per year (not taking into account room and board and other non-educational costs). The typical independent college student, however, paid less than \$10,000 in tuition and fees per year after "tuition discounting" via scholarships was taken into account.⁷⁵ Posted tuition prices increasingly are not an accurate guide to the actual price being paid by independent college students.

Hence, in 1997, the typical independent college student paid only about 60 percent of the cost of his/her education. Therefore, the education of the typical independent college student was subsidized to the tune of approximately \$6,000 per year by other individuals.

It is interesting to note that the size of society's subsidy per college student is not substantially different in four year public sector institutions. While per student expenditures are lower in the public sector, so are tuitions. What does differ between the public and independent sectors, of course, is who supplies the subsidy, taxpayers or other individuals, including donors. In either higher education sector, however, the typical student pays far less in tuition and fees than the real cost of that education to the institution he/she attends. Higher education attendance, then, is a highly subsidized endeavor. It is well to bear this in mind as we as a nation contemplate how it is that we will accommodate increased college enrollments in the future. By 2007, for example, an additional 1,800,000 full-time equivalent students are expected to enroll in American colleges and universities.⁷⁶ Assume that each of these students is subsidized at the rate of \$6,000 per year. Then, the nation's colleges and universities must find an additional \$10.8 billion in additional revenues over and above tuition and fees in order to serve these students at current levels (and this

⁷⁴ See Desson Howe, *University Encroaches on Md. Turf*, WASH. POST, May 3, 1998, at B1.

⁷⁵ Leo Reisberg, *Survey Finds Growth in Tuition "Discounting" by Private Colleges*, CHRON. OF HIGHER EDUC., Mar. 13, 1998, at A52, A52. See generally DIGEST OF EDUC. STATISTICS 1997, NAT'L CTR. FOR EDUC. STATISTICS, U.S. DEPT. OF EDUC. 328 (1998) (reflecting that the average tuition and fee level of four year independent institutions was only \$12,920 and that this "list" price was heavily discounted by scholarships and other price concession granted by colleges to individual students).

⁷⁶ WILLIAM J. HUSSAR, U.S. DEP'T OF EDUC., PROTECTION OF EDUCATION STATISTICS TO 2007: POCKET PROJECTIONS 4 (1997).

assumes implicitly that the costs of higher education will not increase faster than costs in general).

This staggering financial obligation stimulates an obvious, nagging question - What other business would willingly expand its production if it stood to lose \$6,000 on each additional unit of output? Not many! Yet, this is the situation in which higher education finds itself as colleges and universities actually fight to increase their enrollments. On average, the typical institution loses money when it expands its enrollment. As a result it must find increasing amounts of other, non-tuition and fee revenue sources in order to survive.⁷⁷ All of these strategies regarding distance learning will again come to the forefront, as institutions attempt to raise private funds in capital campaigns, cut costs, develop lucrative partnerships, privatize and outsource.

Public institutions that are faced with these constraints will attempt to increase their tax support from their legislatures. In general, they will not be successful, for higher education appropriations, as a proportion of state expenditures have been falling for more than a decade. Only the most optimistic observers believe states will reverse this trend and provide public institutions with funds that approximate the difference between educational costs, tuition, and fees. Indeed, in the "good old days" of the 1960s, many states assumed almost 70 percent of the cost of educating each student, with the remaining 30 percent being financed primarily by student tuition and fees. Those days are long gone. In most states, students now provide more than one-half of the cost of their educations and even robust tax collections associated with strong economic conditions have done little to change this trend. Unless circumstances change significantly, public colleges and universities are destined to experience a slow, agonizing eroding down of their real, after-inflation tax support per student.

In the independent sector of higher education, enrollment expansion implies a subtle form of institutional suicide unless an institution decides to serve very low cost, non-scholarship students (a policy that has social implications), raise impressive amounts of money via gifts and other sources, or benefit from one of the few "tuition assistance" programs that some states maintain to subsidize a portion of the attendance of their state's students at independent institutions in that state. In Virginia, for example, a Tuition Assistance Grant (TAG) program exists that provides independent institutions with \$2,600 for each full-time Virginian student they enroll. A financial rationale for such a program is that this payment is considerably less than it would cost the state to enroll the same student at

⁷⁷ See Gordon Winston, *Economic Research Now Shows That Higher Education is Not Just Another Business*, CHRON. OF HIGHER EDUC., Mar. 27, 1998, at B6 (providing a discussion of this and related points).

a public institution and, besides, the independent institutions often have unused student capacity.

Whatever one thinks of TAG-like programs, it seems likely that they will become an increasingly important part of the higher education landscape in the future. As taxpayer taste for supporting public colleges and universities wanes, TAG-like programs, higher education voucher programs that approximate the famous "G.I. Bill," various forms of federal student financial aid, and research support for independent institutions will grow. The end result will be a form of financial convergence of public and independent institutions. That is, in the future, public and independent institutions will increasingly resemble one another in terms of the sources of their funds. This is already the case in many respects. Less than 15 percent of the total expenditure budget of a public institution such as the University of Virginia comes from state tax-supported appropriations, and this percentage has been falling year by year.⁷⁸ Every public institution has become critically dependent upon the private fund-raising that has long characterized independent institutions.

In relative terms, the University of Virginia's tax support now is not appreciably more than that received by several Virginia independent institutions. Consider Eastern Virginia Medical School of the Medical College of Hampton Roads, (EVMS), which is an independent institution: ten percent of its expenditure budget is derived from the Commonwealth of Virginia and it receives approximately \$30,000 per full-time equivalent student from the state. Compare EVMS with its next door neighbor, Old Dominion University, which receives approximately \$6,000 per full-time equivalent student from the Commonwealth.⁷⁹

Hence, the financial convergence of public and independent institutions is underway. In some states, this convergence will occur without great fanfare and, as in Virginia, will not necessarily occur because there has been an open public policy debate about the merits of the issue and its consequences. Nonetheless, it is happening, and by the year 2030, if one looks past institutional names, cultivated images, and outward campus traditions that date back to Colonial times, one will discover the majority of public and independent institutions looking surprisingly alike in terms of their revenue sources. This is an important part of the ongoing revolution that is occurring in higher education in the United States.

Job Generation and Business Spinoffs

⁷⁸ 1998 Va. Acts. ch. 464.

⁷⁹ State Council of Higher Education in Virginia, Statistical Summaries: Public Institutions, <http://www.schev.edu/wuresrch/index.html> (visited Nov. 5, 1998).

Traditionally, institutions of higher education did not become actively involved in economic development activities, except in very indirect ways. When Harvard College was founded in 1636, its major purpose was to train young men to become members of the clergy. There was no thought of a Harvard Business School, or the advent of nearby Massachusetts Institute of Technology, whose programs are explicitly tied to job markets, business development, applied research and development. This educational concept was still more than two centuries in the future.

As the 21st Century beckons, however, nearly every college or university in the land trumpets the economic impact of its activities and brags how it trains the next generation of leaders; produces engineers, computer scientists, and nurses; and, teams together with businesses to solve their problems. Insofar as their commitment to economic development and their connections to business and industry are concerned, slowly and subtly, the missions of America's colleges and universities have changed. Even though the pace of this evolution has picked up significantly in recent years, the story is much more one of a long evolution rather than revolution. However, there are certain seminal periods of history, including the establishment of land-grant state universities via the Morrill Acts, the sudden research and development demands placed upon universities by World War II and the Cold War. The 1990s are also included in this revolution as a tremendous whirlwind of technological change engulfed society and stimulated thousands of cooperative arrangements between higher education institutions and business and government.

In 1998, it is no longer optional for a public college or university to decide whether it wishes to become involved in economic development activities. All educational institutions must do so, or at least lend the perception that they are attempting to do so. Nearly every state has published some type of higher education master plan that describes how its colleges and universities have, or will, become the fulcrums of economic growth in those states. The focus of this discussion often is the state's major public research institutions, but independent institutions are always included. In the State of Massachusetts, for example, no study of its economic base could overlook Harvard University and the Massachusetts Institute of Technology. Indeed, in many ways, they and other institutions of higher education are the foundation of Massachusetts' economy. Similarly, in Maryland, Johns Hopkins University has become the largest single source of economic energy in the Baltimore metropolitan area. In the west, Stanford University is acknowledged to be the primary source of personnel, ideas, and research for Silicon Valley.⁸⁰

⁸⁰ See James Aley, *The Heart of Silicon Valley*, FORTUNE, <http://www.pathfinder.com/fortune/1997/970707/sta.html> (last modified July 7, 1997).

One of the most interesting trends in higher education is the growth in the number of college and university related firms that have appeared on the landscape. These firms may be partially or wholly owned by the institution, or owned by a subsidiary foundation that supports the institution's activities, or even a connected for-profit firm. Consider Virginia Tech, which developed a library automation company, which it then sold to investors. This activity is a part of Virginia Tech Intellectual Properties (VTIP), a non-profit subsidiary, created in the 1980s to manage Tech's technology transfer activities. VTIP and other branches of the institution invest in venture capital firms, some of which, in turn, invest in scientific developments generated by the Virginia Tech faculty.⁸¹ Meanwhile, in Texas, the Texas A&M Development Foundation has committed more than three million dollars over ten years to the fifteen million dollar A&M Fund, which will invest in Texas companies.⁸²

It has long been customary for colleges and universities, typically through their foundations, to acquire equity positions in businesses that they help to create, or to hold lucrative patents that generate significant revenues. These trends have accelerated in recent years, both because the institutions crave additional revenues and because they have been encouraged to do so by influential public and private decision makers. If there ever were a financial ivory tower in higher education, it has disappeared as institutions ranging from Stanford and Washington in the west to George Mason and Rutgers in the east have joined the ranks of America's capitalists. This is one of the many ways that colleges and universities will deal with the imbalance between their revenues and their costs. Surely, not all approve of this trend, but it is to be almost unavoidable, given the increasingly strong connections between university programs in the sciences, economics, engineering, business, and the changing revenue sources of colleges and universities.

The Changing Role of Faculty

Few constituent groups in modern American colleges and universities will be more impacted by the accelerating revolution in higher education than faculty. According to the Chronicle of Higher Education, more than 931,000 faculty held positions in American colleges and universities in Fall 1995.⁸³ Only 59.1 percent of these faculty, however, were full-time, down from 64.8 percent in Fall 1991.⁸⁴ Full-time status is less common

⁸¹ See Goldie Blumenstyk, *Virginia Tech Uses an Unusual Strategy to Promote the Transfer of Technology*, CHRON. OF HIGHER EDUC., Dec. 6, 1996, at A49, A50.

⁸² See Goldie Blumenstyk, *The Academy's Venture Capitalists*, CHRON. OF HIGHER EDUC., May 17, 1998, at A37, A38.

⁸³ See Alison Schneider, *More Professors Are Working Part Time, and More Teach at 2-Year Colleges*, CHRON. OF HIGHER EDUC., Mar. 13, 1998, at A14.

⁸⁴ See *id.*

among women faculty (51.7 percent) and in two year institutions (36 percent).⁸⁵

It is clear that higher education institutions are employing more part-time faculty. The reasons for this are many. First and foremost, part-time faculty are less expensive and the financial stresses noted in the sections above militate in favor of institutions hiring part-time rather than full-time faculty. However, part-time faculty also permit colleges and universities greater flexibility; such individuals may be terminated and transferred much more easily and their terms of employment may usually be altered without much notice. Whereas, full-time faculty may balk at teaching a course on Saturday morning, such an assignment may actually be just what a part-time faculty member is seeking because he/she is employed full-time during "regular" week days at another job as an engineer, nurse, journalist, marketing specialist, school superintendent, and the like. This example also suggests that part-time faculty can enrich the practice of the full-time faculty by adding specialized expertise and practical experience to the teaching profession. This is the argument used by college administrators in their quest to imitate non-academic firms at their educational institutions by creating a new class of employees, the members of which are sometimes cynically referred to as "permatemps."⁸⁶

Faculty tenure is an institution that is both widely misunderstood and in 'deep trouble,' primarily because it appears to be out of step with the new, revolutionary circumstances that pervade higher education. As Jon Weiner posed the question in a widely-quoted article in *Dissent*, "Why should college and university professors have job security, when so many other Americans are losing theirs?"⁸⁷ While Weiner and others firmly believe that faculty tenure is essential to the maintenance of academic freedom,⁸⁸ he acknowledges that the public at large does not agree, and a clear majority of business and political leaders believe tenure is obsolete because it protects unproductive "deadwood" faculty members and prevents institutions from adjusting to new conditions.

It is clear that fewer faculty members are being awarded tenure,⁸⁹ which in essence provides a faculty member with enviably high levels of

⁸⁵ See *id.*

⁸⁶ Steven Greenhouse, *Equal Work, Less-Equal Perks: Microsoft Leads Ways in Using "Permatemps,"* N.Y. TIMES, Mar. 30, 1998, at D1.

⁸⁷ Jon Weiner, *Tenure Trouble*, DISSENT, Winter 1998, at 60, 64.

⁸⁸ See generally MATTHEW W. FINKIN, *THE CASE FOR TENURE* (Cornell University Press 1996).

⁸⁹ See Debbie Goldberg, *Keeping College Facilities Accountable*, WASH. POST, July 27, 1997, at R4 (discussing that while the percent of tenured full-time faculty members in American higher education has continued to hover in the mid-60s, the percent of faculty members who are full-time has been falling and hence the proportion of tenured faculty among all faculty is falling).

job security and due process guarantees should college administrators attempt to terminate that faculty member. Very few tenured faculty members are ever dismissed from a college faculty for any reason, although more institutions have adopted policies that permit "post-tenure" reviews of faculty so that they might be dismissed for obviously inadequate performance or blatant professional lapses after failing to heed previous warnings.⁹⁰

Further, more institutions are moving to faculty contracts that do not result in the award of tenure. According to the American Association for Higher Education, 15 percent of higher education institutions now have no tenure system.⁹¹ The most common alternative is a single or multiple year term contract. An increasingly popular model in such circumstances is a "rolling" contract that often spans three years. A faculty member who is granted such a contract must be given three years notice (or three years salary) if he/she is to be terminated.⁹²

A tell tale sign that the institution of faculty tenure is in difficult straits is the fact that many individuals inside higher education are calling for its partial or total abandonment in favor of other employment arrangements. Richard Chait of Harvard is one of the most prominent proponents of this approach.⁹³

He cites approvingly the practice of Greensboro College granting higher salaries to those faculty who voluntarily accept term contracts and Webster University's system of granting more frequent sabbaticals to those faculty on term contracts. And, he notes that the "medical school model," whereby faculty who do not hold tenure move back and forth with ease between their non-academic professional practice and their roles as faculty is applicable to many other areas of colleges and universities, including most professional schools.

Chait also believes that traditional tenure-related standards of due process that have been afforded faculty can be provided without tenure,

⁹⁰ Dr. Koch in discussions with other university presidents learned that Florida, Texas, and Virginia are among the states that now require periodic review of the performance of tenured faculty. The Texas policy requires a post-tenure review at least once every five years and permits the dismissal of tenured faculty members whose performance is evaluated as adequate.

⁹¹ Cathy A. Trower, *Tenure Snapshot Inquiry #2*, 1996 AMERICAN ASS'N FOR HIGHER EDUC. (discussing an ongoing study of tenure policies, practices, and trends).

⁹² See James L. Bess, *Contract Systems, Bureaucracies, and Faculty Motivation*, J. OF HIGHER EDUC., Jan./Feb. 1998, at 1–22 (providing a survey of these and related developments).

⁹³ See Richard Chait, *Thawing the Cold War Over Tenure: Why Academy Needs More Employment Options*, CHRON. OF HIGHER EDUC., Feb. 7, 1997, at B4, B5.

and that legal guarantees of academic freedom can be similarly afforded to faculty without being accompanied by a tenure award.

The thrust of this discussion is that the institution of faculty tenure is under attack even though faculty tenure is currently being granted to a smaller proportion of faculty members. The current seepage away from tenure will turn into a flood once a sufficiently prestigious institution clearly steps away from tenure and its salient features. That is, if well-regarded institutions of the stature of Columbia or Chicago in the independent sector, or Michigan or UCLA in the public sector modify tenure in a serious way, then we will see a stampede of institutions following their example. This is almost inevitable given the revolutionary nature of the higher education landscape in the 21st Century.

Thus, while students may be much more pleased, and frequently much better served by the revolution that is taking place in higher education, many faculty feel that they are being forced to bear many of the costs of these new arrangements. They are not completely wrong in this view, although the predominant public view is that such changes should have occurred many years ago.

The Consumer is King and Market Segmentation

In the new world of higher education, the consumer is king. "Consumer?" one may ask. "I thought universities taught students and as such when did they become consumers?" The answer is when, regardless of location, they became able to "shop" higher education by comparing offerings, prices, quality, and convenience. Institutions then began to respond to what students told them they wanted. At some institutions, such as, Virginia's James Madison University, this has involved extensive provision of student services, entertainment, excellent food, and a host of other student-oriented services. At other institutions, like National University in California, attention to student needs has resulted in intensive, modular courses that begin and end within a month. At still other institutions, special attention has been given to the needs of the military student populations at Troy State University, leadership-oriented education at the University of Richmond, or multilingual populations at Rio Salado Community College in Arizona.

The common denominator is that students (the "consumers") increasingly call the tune. Gone are the days of the 1960s and 1970s when universities disdainfully boasted of the legions of students that they flunked out; gone, too, are more recent days when the majority of college students were taught between 8:00 a.m. and 2:00 p.m. Students now demand, and receive, courses taught at night, on weekends, in three week blocks, over the Internet, with guaranteed internships, and with prolific

access to microcomputers. Convenience remains important, but now it is the convenience of the students, not the faculty, that is paramount.

Further, there is a distinct trend toward personalizing higher education to the needs of particular students. If Levi Strauss can electronically scan a customer's body and produce a perfectly fitting set of blue jeans within a week, and Microsoft can produce individualized Internet newscasts tailored to one person's tastes, then why can't a university produce an individualized Masters in Business Administration (M.B.A.) program that recognizes a student's past coursework, experiences, and current, and future needs? Of course, universities can do so and, increasingly, already are. The "one-size fits all" model of higher education is fraying at the edges and entrepreneurial higher education competitors are saying to students, "Come to us--we'll provide you with the education you want and need rather than what someone else thinks you might want or need." The program in question might be an Executive M.B.A., or an Internet-based criminal justice bachelor's degree, or a Registered Nursing (R.N.) completion program that not only grants practicing nurses extensive credit for past education and experience, but also tailors their course requirements to the particular type of nursing, ie. pre-natal, or geriatric, etc. in which they are involved.

The end result is increasing market segmentation in higher education. Because no institution can meet all of the highly variable needs of students, they all determine that they must focus their efforts in order to succeed. Witness Yale University; despite an endowment valued at more than five billion dollars, Yale declared a few years ago that it had to narrow its efforts.

Parenthetically, does the increasing emphasis upon "consumer sovereignty" and market segmentation signal the death knell of the liberal arts college? Hardly. Distinctive, focused liberal arts colleges will continue to excel and to attract many student applicants, provided they offer students that which is perceived to be uncommon--value driven education that is based upon superb teaching, small class sizes, and extensive attention to individual student needs. What is implied, however, is that the 'run of the mill' liberal arts college, like the 'run of the mill' public institution, is likely to be buffeted painfully by the market-oriented forces which increasingly dominate higher education. It is likely that scores of such institutions will stagnate and fall by the wayside in the next decades unless they change their ways of operation.

Conclusion

The forces that have brought about the revolution in higher education are gaining steam. A skeptical public appears to believe that higher

education has lost its way and there is a diminished sense that current structures and practices in higher education are optimal. This attitude is reflected in declining citizen support for higher education and in increasingly strident demands for change and reform. Significant demographic changes, education costs that have risen much faster than the consumer price index, and newly available technologies are part of this picture that have spurred colleges and universities to, at a minimum, promise to alter their ways of doing business.

During the decade of the 1990s, we have witnessed more change in higher education than in any two decades previously. Higher education, it has been said, is "living in an earthquake zone."⁹⁴ Yet, most knowledgeable observers believe that we will see even more flux and disruption in higher education in the next few years, if for no other reason than that the demographic, financial, and technological bases that have been driving the revolution will increase in size and importance.

Peter Drucker, a management guru, argues that the traditional American university, as we have known it, is doomed and that "Thirty years from now the big university campuses will be relics. Universities won't survive. It's as large a change as when we first got the printed book."⁹⁵ Drucker's view may be extreme, but he is not the only one who sees the future in this context. Without question, higher education now reflects Schumpeter's "gale of creative destruction" and burgeons with splendid opportunities and dangerous challenges. It is a time without precedent in the saga of American higher education.

⁹⁴ Institute for Research on higher Education, *Rumbling*, POLICY PERSPECTIVES, Nov. 1996, at 1. See also <http://www.irhe.upenn.edu/cgi-bin/pp-cat.pl>.

⁹⁵ Robert Lezner & Stephen S. Johnson, *Seeing Things as They Really Are*, FORBES, Mar. 10, 1997, at 122, 127.