College Goes Global
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THE COMING TEST

In June, students of Shengda College, in Xinzheng, China, staged one of the most disruptive and violent protests since pro-democracy demonstrators took to Beijing's Tiananmen Square in 1989. Riot police were called in, the campus was locked down, and the college headmaster eventually resigned. The students rioted because they had received diplomas imprinted with the name of Shengda College rather than ones with the name of the more prestigious Zhengzhou University, the college's nominal mother school, which they claimed had been promised to them. They felt cheated after having paid five times the tuition that Zhengzhou University students pay, and they worried that getting the lesser degree would shut them out of China's economic future.

The unusual cause of this rampage reveals much about the role of higher education in today's global marketplace. Implicit in the incident is the recognition that a college degree is an indispensable passport to the globalized knowledge economy of the twenty-first century. Higher education, once the rarefied province of the elite, is now viewed by most nations as an indispensable strategic tool for shaping, directing, and promoting economic growth. There was, of course, an explicit message in the Shengda students' actions as well: a diploma from the "right" university is incomparably more valuable than just any old degree. Meritocracy be damned: pedigree counts.

Both of these messages would seem to bode well for U.S. universities. Since the end of World War II, the United States has been recognized as the world leader in higher education. It has more colleges and universities, enrolls and graduates more students, and spends more on advanced education and research than any other nation. Each year, more than half a million foreigners come to the United States to study. A widely cited article written by researchers at Shanghai Jiao Tong University that looked at the academic ranking of universities worldwide based on faculty quality and research output found that more than half of the top 100 universities in the world -- and 17 of the top 20 -- were in the United States.

It would also seem that higher education is a market ripe for globalization and that U.S. universities -- by right of their acknowledged achievements, outstanding reputations, and considerable advantages in size and wealth -- are predestined to take on the world in the way that Boeing, IBM, Intel, and Microsoft have done within their respective industries. But as the president of a U.S. university that has operated one campus in China for two decades and another campus in Italy for more than half a century, I can say that consolidating U.S. dominance in international education will not be as easy or as likely as it seems.

The evolution of the global higher-education market, and the United States' predominant role in the field, is of great and increasing consequence both in the United States and abroad. How should U.S. institutions of higher learning -- and, in particular, the United States' world-renowned system of private and public research universities -- adapt to this changing environment? Is this field, like so many others in the past, destined to see the emergence of a handful of global players -- educational powerhouses -- that come to dominate and define it? Will the twenty-first century be the era of the "Global U"?

TRAINS, PLANES, AND UNIVERSITIES

When Johns Hopkins University was established in 1876, its founders hoped to depart from existing models. They took the highly unusual step of recruiting Daniel Coit Gilman, from the University of California, Berkeley, as the university's founding president. This choice was no small departure from established norms: to recruit in California from Maryland just seven years after the completion of the transcontinental railroad was an adventurous undertaking (at a time when trains averaged speeds between 25 and 35 miles per hour).

In those days, most scholars, and most people, were not freely mobile. This limitation had an important implication for faculty. If you were to become a scholar in Mesopotamian history at Johns Hopkins, for example, and you knew more than any other scholar between Washington, D.C., and New York City, you would have been in a good position to become a tenured professor. Even if you were not particularly accurate in your knowledge of the subject, your shortcomings would go undiscovered for months or even years. The diffusion of knowledge was slow, and, as a result, expertise was assessed within a local or regional context.

Today, knowledge is disseminated in seconds, and flawed information is quickly exposed. This is the effect of the "IT-IT phenomenon": cheap international travel and ubiquitous information technology combine to disassociate expertise from place. Speeches and papers appear on the Internet as soon as they are delivered or published. Theories are proved or disproved through an international network of scholars who have immediate access to the latest discoveries. Physicists in Ukraine, for example, debunked the "discovery" of cold fusion within days of the announcement in 1989. Since international air travel has become relatively affordable, the experts who generate such knowledge are also mobile.
As a result of this IT-IT phenomenon, expertise is now measured on a global rather than a local scale. It is no longer possible to depend solely on local experts for knowledge. Only if the local expert is also a globally recognized expert can you rely on your faculty colleague down the hall. On a trip to Singapore (where my university has partnered with the National University of Singapore to create a musical conservatory and where we also have a medical clinic and in-patient cancer facility), I found myself on the same plane as three Johns Hopkins faculty members: one teaches mathematics during the winter semester in Singapore, the other two were doing collaborative research with faculty at the National University. Their paychecks may state that they are employees of Johns Hopkins, but that is not what is important to their students and colleagues in Singapore -- it is their world-class expertise that matters most.

Global expertise commands a premium -- an academic version of the Michael Jordan phenomenon. Jordan was making $33 million a year when playing basketball for the Chicago Bulls, whereas the person sitting on the bench next to him, although a very good player in his own right, was making hundreds of thousands. Why? Because Jordan was truly the world authority of basketball and was able to command a global audience. The journeyman guard playing next to him may have been fine for the local crowds in Chicago, but he was not going to have the same drawing power on a worldwide ESPN broadcast.

This new emphasis on world-class expertise fuels a global search for talent that favors universities with access to the most resources. As in other spheres of life, in education, the rich will tend to get richer and the poor increasingly will struggle to catch up. As of June 30, 2005, Harvard's endowment was more than $25 billion; Yale, Stanford, Princeton, and the University of Texas system had each reported endowments over $10 billion; 24 U.S. colleges and universities had endowments of $2 billion or more; and nearly 60 had at least $1 billion in income-generating assets. By contrast, a 2003 British study on higher education noted that just five British universities had endowments worth at least $200 million, compared with 207 universities in the United States. Only Oxford and Cambridge -- with more than $4 billion each -- would come in the top 150 in the world (tied at number 15). Outside the United States, only countries with rapidly growing economies, such as China and Singapore, can afford to invest heavily in making their universities world-class research institutions. In countries with slower economic growth, universities increasingly depend on nongovernmental sources of revenue, chiefly endowment income.

Like faculty, students -- particularly graduate students -- are drawn from a global pool. The best professors need access to the best students, and so the talent search has moved to the international arena. This explains why in U.S. universities today, roughly a third of all graduate students in science and engineering and more than half of all postdoctoral students are foreign nationals.

SCHOOL DAZE

Just as geographic boundaries have become less distinct in higher education, the walls between academic disciplines within universities are being torn down as well. The frontiers of research, whether in the sciences, engineering, or the humanities, are increasingly those places where teams of experts from multiple disciplines work together. For decades, the life and physical sciences were separated by impermeable barriers. Today, if barriers exist at all, they are highly porous. Contemporary advances in medical science, for instance, often cannot proceed without significant contributions from robotics, information sciences, engineering, and the physical sciences. Even problems in biochemistry, a relatively narrow field, can no longer be dealt with by the biochemist alone: you also need a molecular biologist, a biophysicist, and a physiologist.

Universities must therefore develop the ability to assemble multidisciplinary expertise. As recently as 1985, most research grants in a Johns Hopkins academic department involved that department alone or a single faculty member. A decade later, grants were often going to groups of faculty members from multiple disciplines, but for the most part still within the university. Today, very few grants are given to just a single faculty member, and about a fifth of our grants involve one or more faculty investigators not at Hopkins. For example, we received a prestigious National Science Foundation grant for robotic surgery research that involved not just a number of divisions at Hopkins, including the Applied Physics Laboratory and the School of Engineering, but also faculty members from Carnegie Mellon, the Massachusetts Institute of Technology, and Harvard Medical School.

The use of discipline-based departments has many advantages for teaching and quality assurance, but in many cases it also serves as an impediment to interdisciplinary research. Whether the barrier is geographic, financial, or bureaucratic, universities are being challenged by the need to quickly assemble interdisciplinary research teams to react to new frontiers.

The New York Times columnist Thomas Friedman might say that the academic world has gone flat. Hierarchical structures that contain expertise in divisions and departments and are under the supervision of a chair or dean apply less and less. This can perhaps be best understood through a "quantum physics model" of the university. In the classical model of the atom, a central sphere -- the nucleus -- has electrons circling around it in fixed orbits. In much the same way, in the classical model of the university, faculty and students orbit around the campus, held together by commitment and tenure. Although loyal to their discipline, professors have at least as great a commitment to their institutions. Students are present all the time and feel a strong sense of loyalty to the university.

But the classical model of the university has given way to a different reality, akin to the quantum model of the atom, which has electrons acting as waves as well as particles and consequently occupying positions that cannot be pinned down with absolute precision. Today, research universities have multiple campuses -- in fact, more of a cloudlike collection of sites. Johns Hopkins, for instance, has more than a dozen sites in the United States, operates research projects in 80 countries, and will probably have even more campuses in the future. Nor is Johns Hopkins unusual in this regard. The University of Maryland has a business school with programs in nine locations on four continents, including campuses in Beijing and Shanghai. Yale University celebrated its tercentenary by declaring its intent to become, in the words of its president, Richard Levin, "a truly global university" and published a comprehensive plan to achieve that goal. Carnegie Mellon has a campus in Qatar. Temple University has a presence in Japan. MIT is one of several universities with programs in Singapore. According to Newsweek International, in the past six years the number of U.S. universities with campuses abroad has doubled to about 80, and new ventures continue to arise, especially in Asia, where the thirst for higher education seems unquenchable.
Faculty members are no longer in a tight orbit around a campus; they are loosely bound to their institutions. This is not without reason: the faculty has to be a collection of international experts. Professors are loyal not only to their disciplines but also to their research, and they need to work with others with the same focus. This association is natural and is now made possible through electronic connections and physical travel.

The loosening of the affiliation between faculty and universities is an inevitable consequence of the globalization of knowledge. In the quantum physics model, faculty obey a kind of uncertainty principle: you may know where a professor is at any given time or you may know his institutional affiliation. But the more you try to ascertain the former, the less sure you may be about the latter, and vice versa. This phenomenon prompted the former president of Boston University, John Silber, to actually propose taking roll call to see whether faculty members were on campus. But such a measure would go against the grain of how knowledge is generated and diffused in today's information-sharing environment, and Silber's proposal unsurprisingly has come to nothing.

One consequence of these changes is that the relationship between faculty and universities has become more and more one-sided. Tenure provides a lifetime, no-cut contract for faculty. But professors' and researchers' allegiance is linked to their research, and they have no requirement to stay until retirement with the university that granted them tenure. At the same time, faculty whose field of study becomes obsolete or is no longer within the primary purview of the university's mission cannot be removed. This is a potential Achilles' heel for world-class universities bent on remaining relevant in an environment that places a premium on research and development and evolves at a rapid pace.

Already, increasing numbers of teaching slots at colleges and universities large and small are being filled with adjunct, part-time, and non-tenure-track faculty. But tenure remains a core value for professors, and the best and the brightest will continue to look for it. For the foreseeable future, it will remain up to universities themselves to award their lifetime contracts with great prudence and keep a watchful eye on future academic needs and evolving disciplines.

A MEGAVERSITY FOR THE WORLD?

All these forces at work in higher education today suggest the arrival of an entirely new institution: the "megaversity," a research and education dynamo electronically linking the best faculty and the most capable students in a worldwide academic community. Will a cartel of the richest and most aggressive schools come to embody and define the global university?

At the end of the twentieth century, the economist Peter Drucker told Forbes that the traditional university model was dead, predicting that big university campuses would be relics in 30 years. More recently, the Princeton economics professor Alan Blinder predicted in these pages ("Offshoring: The Next Industrial Revolution?" March/April 2006) that any service capable of being transmitted through a wire -- especially higher education -- would eventually migrate from high-cost to low-cost regions: "As college tuition grows ever more expensive, cheap electronic delivery will start looking more and more sensible, if not imperative." Drucker's and Blinder's ideas suggest that the coming changes in higher education will resemble the experience of the manufacturing sector in the first half of the twentieth century. The Ford Motor Company's state-of-the-art River Rouge Plant, for instance, employed over 100,000 workers in the 1930s, making it the world's largest integrated manufacturing facility at the time. But it has since given way to a constellation of manufacturing facilities and independent suppliers scattered around the globe. A similar development in higher education would result in radically decentralized teaching institutions consisting of loose confederations of campuses (and electronic "virtual campuses") located in different regions and countries.

In spite of these forecasts, however, the era of the global megaversity may not be at hand. Three factors, in particular, suggest a somewhat different future. First, there is the weight of tradition, and the important but hard-to-quantify value that matriculating at prestigious schools brings. Going to college or university is a means of advancing one's education through the attainment of specialized knowledge, culminating in the bestowing of a formal credential. But more than that, it is an important rite of passage as well. College students traditionally inhabit a fuzzy time between youth and adulthood; there is an enormous appeal to -- and probably some good social reasons for -- spending this time of discovery, of choices, and of meeting future associates and lifelong partners in such a setting. Connecting all these young men and women through a wire would not be the same thing.

This environment is important to faculty as well. Colleges around the world may vary considerably in their layout and architecture, but almost every campus is a place apart. The term "ivory tower" -- now largely understood in a pejorative sense -- was originally meant to recognize and celebrate the essential separateness of the life of the mind. An ivory tower was a place of noble purity. Plato's champions reportedly raised 3,000 drachmas to buy a sacred olive grove outside the walls of Athens as the site of the Academy, home to many of the great thinkers of the Hellenic world. An essential feature of the university since its inception has been this sense of its being an exclusive and selective place apart. Pity the modern megaversity president who, to improve economic efficiency, has to inform her Nobel Prize-winning faculty member that the campus is being broken up and dispersed to countries with lower labor costs -- or, worse yet, disbanded entirely.

The second issue that will ultimately prevent the creation of the Global U is the problem of national boundaries. Drucker, Friedman, and others may have observed that the power of the nation-state has withered, but by no means has it disappeared. Universities and the nations they call home exist in an extremely close and elaborately constructed symbiosis. Every nation in one way or another makes significant financial contributions to its resident universities and demands considerable returns in exchange -- both in numbers of qualified graduates and in terms of the economic benefits that the education and research carried out by the universities provide. Also, credentialing -- always a vitally important part of the educational process -- is exclusively defined and controlled by the host nation, and it would behoove the soothsayers to remember that few nations are willing to adopt a laissez-faire attitude toward the teaching, beliefs, and activities on their campuses.
Finally, as is so often the case, the advent of the Global U really comes down to a question of money. Plato would not have had his Academy but for the generosity of friends who helped him buy the land it was built on. It was supported, according to a medieval account, by rich men who "from time to time bequeathed in their wills, to the members of the school, the means of living a life of philosophic leisure." That model of the university survives to this day. The only thing that may have changed is the question of degree. Ancient and medieval universities were expensive hobbies of the rich and the royal; today's modern research universities are several orders of magnitude more costly to run and sustain. Virtually every great university today depends on government funding, student tuitions (each of which covers only a portion of the cost of an education), alumni support, and the outstanding generosity of philanthropists to make ends meet. Even so, financing is always a struggle, and the price of a university education in the United States has marched determinedly ahead of the rate of inflation for decades now. To be successful -- and even to stay in business -- a global university would somehow have to garner consistent and dependable financial support from many different nations simultaneously.

So far, it has been those countries with especially deep pockets (some of the smaller Persian Gulf states), an especially profound commitment to higher education (Singapore), or unusually high growth potential (China and India) that have successfully marketed a combination of available land, government accreditation, and financial incentives to lure foreign universities to their shores. But most of this activity is brand new -- especially when considered in light of the thousand-year tradition of higher education in Western civilization -- and it remains to be seen whether these ventures will be viable long-term relationships or temporary accommodations born of an era of good feeling.

THINK GLOBAL

Universities, like houses of worship, are among the few institutions that have survived fundamentally unchanged for centuries. Empires will rise and fall, and countless other social arrangements have, over the years, given way to political, geographic, and environmental forces. By their design, however, universities are slow, if not sometimes unable, to change. This inertia has been their intrinsic advantage. Yet today they are subject to the same forces and stresses created by globalization that confront all other aspects of society.

Increasingly, there are serious disputes revolving around who should own the rights to the intellectual property generated by faculty, the increasing mobility of professors and researchers, and the responsibilities of universities to their tenured staff. The productive faculty of today may be rendered less relevant to the research agendas of tomorrow as the pace of discovery quickens. Ultimately, the ability of universities to reconfigure their educational and research efforts will depend on the agility of their faculty and the porousness of their traditional boundaries.

For nearly three-quarters of a century, scientific research was largely the province of the United States and Europe. Now, emerging countries -- especially in Asia -- increasingly are significant contributors to science and technology, and this trend is likely to continue for the next half century or more. Existing research universities are liable to lose their leading role unless they are able to form, or join, worldwide networks of researchers working at the frontiers of knowledge.

The United States' oft-cited head start in universalizing higher education is also dwindling. Whereas Americans used to clearly lead the world in areas such as college participation rates and the breadth and diversity of higher education, the rest of the world has been catching up. Higher-education enrollment has increased by more than 30 percent in the United Kingdom in the last two decades and in France by an astounding 72 percent. China quintupled its number of college graduates in the past seven years alone. And for the first time since the late 1800s, the United States no longer has the world's highest rate of young students going on to postsecondary institutions. That honor now goes to Canada, with the United States and Japan close behind.

At first blush, it seems hard to imagine two less similar entities than a multinational oil company and a prestigious regional research university. Yet they are very similar in this one respect: both must ultimately respond to the fundamental need to go where the resources are. Almost 70 years ago, the Standard Oil Company of California discovered oil in Dammam, Saudi Arabia, after four years of unsuccessful drilling. A similar dynamic is increasingly under way in research and higher education today, propelled in no small part by open borders, jet transportation, instantaneous communications, and over one billion English speakers -- the same factors that are fundamentally reshaping international commerce and the creation and distribution of wealth. Universities must prospect for the best brains, skills, and talent. In recent years, it has increasingly become evident that they will have to go far beyond their traditional borders to find those resources.

Fonte: Foreign Affairs, v. 86, n. 2, p. 122-133, Mar./Apr. 2007.