CHAPTER 24

The Globalization of Higher Education

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Today our world has entered a period of rapid and profound economic, social and political transformation based upon an emerging new system for creating wealth that depends upon the creation and application of new knowledge and hence upon educated people and their ideas. It has become increasingly apparent that the strength, prosperity and welfare of a nation in a global knowledge economy will demand highly educated citizenry enabled by development of a strong system of tertiary education. It will also require institutions with the ability to discover new knowledge, develop innovative applications of these discoveries and transfer them into the marketplace through entrepreneurial activities.

Yet the traditional institutions responsible for advanced education and research — colleges, universities, research institutes — are being challenged by the powerful forces characterizing the global economy: hypercompetitive markets, demographic change, increasing ethnic and cultural diversity, and disruptive technologies such as information, biological and nanotechnologies. Markets characterized by the instantaneous flows of knowledge, capital and work, and unleashed by lowering trade barriers are creating global enterprises based upon business paradigms such as out-sourcing and off-shoring, a shift from public to private equity investment, and declining identification with or loyalty to national or regional interests. The populations of most developed nations in North America, Europe and Asia are aging rapidly, while developing nations in Asia, Africa and Latin America are characterized by young and growing populations. Today we see a serious imbalance between educational need and educational capacity — in a sense, many of our universities are in the wrong place, where populations are aging and perhaps even declining

rather than young and growing, driving major population migration and all too frequently the clash of cultures and ethnicity. New technologies are evolving at an exponential pace, obliterating both historical constraints such as distance and political boundaries, and enabling new paradigms for learning such as open educational resources, virtual organizations and peer-to-peer learning networks that threaten traditional approaches to learning, innovation and economic growth.

On a broader scale, the education investments demanded by the global knowledge economy are straining the economies of both developed and developing regions. Developing nations are overwhelmed by the higher education needs of expanding young populations at a time when even secondary education is only available to a small fraction of their populations. In the developed economies of Europe, America and Asia, the tax revenues that once supported university education only for a small elite are now being stretched thin as they are extended to fund higher education for a significant fraction of the population (i.e., massification). Yet their aging populations demand highest priority for public funding be given to health care, security and tax relief, forcing higher education systems to become more highly dependent on the private sector (e.g., student fees, philanthropy or intellectual property). More fundamentally, in a knowledge-driven economy, many governments are increasingly viewing higher education primarily as a private benefit to students and other patrons of the university rather than a public good benefiting all of society, shifting the value proposition from that of government responsibility for supporting the educational needs of a society to university responsibility for addressing the economic needs of government — an interesting reversal of traditional responsibilities and roles.

THE CONTEXT

The participants in the first session stressed that globalization is a far deeper and more profound phenomenon than internationalization. In higher education the latter phenomenon has traditionally referred to the mobility of staff and students and the exchange of ideas. Today students in the millions are internationally mobile in search of a university degree and a cross-cultural experience. Universities and their faculties build international linkages, attracting students from far and wide for their academic programmes, and augmenting these with exchange programmes, sabbaticals and conferences to support the free exchange of knowledge and ideas.

Yet globalization implies a far deeper interconnectedness with the world — economically, politically, and culturally. It is a process characterized by increasing economic openness, growing economic interdependence and deepening economic integration in the world economy. While internationaliza-

tion presumes an international market controlled in varying degrees by nations, globalization presumes a world market, one that is beyond the reach of the nation state. Such a market economy challenges conventional social norms and institutions. The "death of distance" associated with emerging information and communications technologies contribute to the rapid spread of cultures, particularly among the young — the "digital natives". Globalization is not a value-free concept, since its logic and ideology of an unfettered world market for labour, finance, and goods fall far short of current geopolitical reality. It thrives on new forms of economic activity such as entrepreneurial capitalism while challenging older, less nimble forms such as oligarchy, state-directed or big-firm capitalism. Yet it also can be highly asymmetric, leading to interdependence of among countries in the industrialized world while creating even more dependence among developing countries.

For the past two decades both established and new "startup" companies have struggled to adapt to the demanding realities of the global, knowledge economy where radical innovation, entrepreneurial skills and global reach are essential. They have downsized, right-sized, offshored, outsourced and just about every other form of restructuring to adjust to the new rules of globalization. They have evolved from multinational to transnational, from proprietary hierarchies to open knowledge networks, assuming the new forms demanded by a continually evolving and mutating global marketplace.

Yet despite the fact that leading universities throughout history have been highly international in the nature of their students, faculty and academic programmes, they have yet to adapt to a global environment. To be sure, they are increasingly subject to influence by powerful global market forces and disruptive technologies. Markets and globalization influence universities, sometimes shaping education both in terms of what is taught and what is researched, and shifting both student interests and university offerings away from broader academic studies and towards narrower vocational programmes. There is a discernable commercialization of universities, defining their purpose increasingly in terms of their role in economic development, sometimes at the expense of more fundamental roles such as challenging the norms of society, securing and transmitting cultural heritage from one generation to the next, mentoring entrants into the professions, accrediting competency and skills, and striving to provide their students with personal understanding and the tools for societal transformation.

In the subsequent discussion, the issue of market pressures continued to be a key topic. Part of the challenge was balancing the needs of various stakeholders in higher education — predominantly the state, students, and business — and keeping all three satisfied without distorting the fundamental purpose of the university. For example, there was a growing utilitarianism associated with the role of higher education in addressing the need for human

capital that could overwhelm the university's traditional social and cultural impact on society and civilization — its transformative potential through the creation, retention and dissemination of knowledge. We were witnessing across the globe a shift from general to vocationally orientated higher education aimed at supporting career development. The distinction between academic and vocational education was becoming increasingly blurred in a knowledge economy. There was a growing tendency for a range of stakeholders in higher education to use the language of "useful knowledge" in the discourse about where resources should be deployed in research, teaching and knowledge transfer that offered a very limited and partial view of the transformative potential of higher education. Should we simply assume that the state would step in to support strategic and vulnerable programmes such as the arts and humanities as greater numbers of students opted for more vocationally oriented subjects, driven in part by the financial burdens of increasing tuition levels as well as by employment opportunities? Or should this be the responsibility of university faculties and leadership?

A related market issue concerned the increasing competition not only among institutions for students, faculty and resources, but between the public and private education sectors and among nations. Private (and occasionally for-profit) institutions initially focused in most nations on the higher education needs unmet by public institutions — with the exception of the United States where much of private higher education goes after the elite marketplace. However more recently the ability of private providers to handpick programmes and faculty, without regard to broader public responsibilities and regulatory burdens, along with their increasing agility in adopting new educational paradigms such as online learning, was leading to substantial growth of this sector, albeit with some concern about educational quality. Although employment laws and regulations had restricted to some degree the development of international markets for faculty and students in some regions such as Europe, new programmes such as Erasmus, Socrates and the Bologna process were leading to more competition across borders.

Even more broadly, there was great interest among Glion participants in phenomena of ranking universities in terms of presumed measures of quality by various publications — so-called league table rankings — first appearing in the United States and Great Britain, but now propagating to global scale (e.g., London *Times*, US News & World Report, Shanghai Jiao Tong) as yet another indication of market pressures. Beyond the fact that these rankings were increasingly used to determine institutional reputation, there was growing sense that they might become as important for nation states as for individual universities. Yet there were serious concerns about whether the rankings were an appropriate proxy for institutional quality. They tended to focus to a large degree on measures of research productivity and reputation in scientific

disciplines, rather than on the quality of learning and teaching. There was also a definite bias towards institutions in English-speaking nations.

Concerns were expressed that such rankings could drive homogenization in higher education by holding all institutions to the same standards; they could also create unrealistic expectations on the part of both patrons (e.g., states) and stakeholders (e.g., students). For example, what ranking would an institution have to achieve to be designated as "world-class"? Among the top 20, top 50 or top 100 in global rankings? It was suggested that since it was likely that league table rankings would continue to proliferate, perhaps higher education organizations should develop their own approach to evaluating and comparing institutional quality, much as has the US National Academy of Sciences in ranking graduate education programmes.

GLOBAL STRATEGIES FOR ESTABLISHED UNIVERSITIES

In many respects the challenges facing higher education in developed nations (e.g., OECD) are quite similar and perhaps incompatible: the need to dramatically broaden participation in higher education to build a competitive workforce (massification), to enhance the quality of both education and scholarship to compete in a knowledge-driven economy, and to reduce the relative burden on tax-payers who face other public spending priorities such as health, retirement and national security. All create strong pressures on universities to diversify their funding sources through mechanisms such as raising student fees, building relationships with industry, encouraging philanthropy and expanding the market for educational services through adult education or international students.

Within this context, the opportunities afforded by globalization look quite significant. Current estimates suggest that the number of students seeking university degrees will roughly double over the next two decades to as high as 250 million, with most of this growth in the developing world. Some nations such as Australia have already launched aggressive efforts to not only recruit fee-paying international students, but to establish overseas campuses to generate additional resources, finding that as the proportion of these students rises above 15%, their institutions begin to exhibit a more global character not only in funding, but also in governance and management.

Both national and institutional aspirations for quality also have acquired a global character with the appearance of numerous surveys (USN & WR, Shanghai Joao Tong, London *Times*) attempting to establish a world ranking of major universities. This has caused some consternation as established universities with long histories of educational excellence have fallen in the rankings. It is certainly the case that an over-emphasis on such rankings can distract both institutions and governments from more fundamental roles and

objectives. But it is also clear that the concerns about the competitive quality of higher education have stimulated initiatives such as the Bologna Process in Europe aimed at overcoming fragmentation, increasing cooperation and competition, increasing investment in both universities and research systems, preparing for demographic change (particularly aging populations) and encouraging innovation and risk-taking.

Global competition among universities has also raised an awareness of the need to provide both a greater degree of institutional autonomy to enable the agility, flexibility and innovation required by today's fast-changing world, as well as a more sophisticated and strategic framework for higher education systems. Key in the latter is the acceptance of the importance of mission differentiation, since the availability of limited resources will allow a small fraction of institutions to become globally competitive as comprehensive research institutions (with annual budgets typically in the range of $1 billion or more). A differentiated system of higher education helps to accomplish both the goals of massification and promoting quality, but assigns different roles in such efforts for various institutions. Enabled both by the continental scale and its decentralized nature, the United States has achieved the most diverse system, enabling it to focus significant public and private resources to create a small set (less than 100) of world-class research universities, while distributing the broader roles of mass education and public service among a highly diverse collection of public and private institutions, albeit with an inevitable tendency toward "mission creep". Although such strategic diversification is beginning to appear in Asia, it will be particularly difficult to achieve in Europe where the Humboldt tradition of universities still resists defining the role of a college or university as primarily teaching (as opposed to scholarship).

Yet, despite the fact that one of the keys to the success of American higher education has been its great diversity and unusual degree of institutional autonomy, largely as a result of the limited role of the federal government in tertiary education, there are clouds on the horizon. A recent national commission has raised serious concerns about the increasing socioeconomic stratification of access to (and success in) American higher education; questionable achievement of acceptable student learning outcomes; cost containment and productivity; and the ability of institutions to adapt to changes demanded by the emerging knowledge services economy, globalization, rapidly evolving technologies, an increasingly diverse and aging population, and an evolving marketplace characterized by new needs, new providers and new paradigms. Furthermore, even the traditional strength of the American research enterprise, based heavily upon its world-class research universities, has begun to show some deterioration: a skewing of the nation's research priorities away from engineering and physical sciences and towards the life sciences; erosion of the engineering research infrastructure; a relative decline in the interest

and aptitude of American students for pursuing education and training in engineering and other technical fields; and growing uncertainty about US immigration and foreign policy, constraining its ability to attract and retain gifted science and engineering students from abroad.

While most established universities are embracing — or at least coping with — globalization while addressing the ongoing challenges of massification, academic competition and limited public resources, local politics, culture and history shape their particular approach. Europe has chosen to utilize the Bologna Process (and related programmes such as Erasmus, Socrates, and the European Science Area) to enhance cooperation and competition among institutions, stimulate greater mobility of students and faculty, and achieve greater diversification enabling the focus of sufficient resources on a subset of institutions to achieve world-class quality. While Russia has accepted much of the Bologna philosophy, it also faces the challenge of merging its universities with the scientific institutes where most research occurs and garnering greater support from both public and private sources. Japan has focused on the incorporation of its national universities, separating them legally from the government to provide them with the autonomy and presidential authority to become more strategically aligned with the global economy.

As noted earlier, changing demographics, student demands and government policy have stimulated Australian universities to augment public support both with higher fees, enabled by a national forgivable student loan programme, and to aggressively recruit fee-paying international students both for existing campuses and new sites abroad. Although the United States already has achieved a balance between public (45%) and private (55%) support of higher education, this is shifting even further toward the private sector as an aging population shifts tax dollars away from education toward other social priorities such as health care, retirement and security. In fact, today many of the America's leading public research universities now find that less than 20% of their operating funding comes from the appropriation of tax dollars, with the remainder coming from student fees, competitive research grants, philanthropy, services such as health care, and technology licensing and spinoff companies.

The open discussion session following these presentations focused primarily on two topics: the increasing differentiation of both institutional types and missions demanded by the global marketplace and the role of the state in planning, management and regulation of higher education. It was increasingly apparent that the great diversity of higher education needs, both on the part of diverse constituencies (young students, professionals, adult learners) and society more broadly (teaching, research, economic development, cultural richness) would demand a diverse ecosystem of institutional types. Here diversity should be viewed as positive and not conflated with the concept of hier-

archy. One could envision a range of models of universities ranging from the mega to the single faculty or single focus business school. Notwithstanding the differences in scale between institutions of higher education, there was still a need to ensure that each institution had the capacity to "flex its provision" to meet changing circumstances and changing demand for higher education provision, whether in the area of learning and teaching, research, knowledge transfer, and increasing and widening participation.

In regions dominated by public institutions, there was a need to think through the implications of creating new institutional forms for new private universities in Europe. These new institutions would need to be flexible and non-bureaucratic to survive in a market-led environment. There could well be a market for relatively small, flexible, world-class higher education institutions, which like some of the world-class business schools, could operate successfully on private funding from tuition fees while also competing for state funds for research and knowledge transfer. There might even be a market for the broad educational training characterizing the liberal arts colleges of the United States. Swarthmore was a model that others might follow with just over one-third of operating revenue derived from student fees and 43% derived from endowment income. Singapore is ready to experiment with the liberal arts college model on a public/partnership principle experiment requiring an initial investment of $1 billion for startup costs. However some caution was urged by observing that in the 1950s liberal arts colleges had awarded 70% of BA degrees in the United States; today that percentage has dropped to less than 3%, perhaps reflecting that students and parents were acting increasingly as consumers and opting for a more directly utilitarian higher education experience.

There was increasing government and stakeholder pressure for good governance and accountability, particularly in view of the expansion of higher education participation and the increasing important of education to prospering in the global knowledge economy. Paradoxically, in some nations even as relative government support has declined, the efforts to regulate universities and hold them accountable increased. Although some of this was stimulated by the sub-optimal activities of a relatively small number of institutions, it was perhaps also evidence of governments attempting to retain control over the sector through regulation even as their financial control waned. Yet such excessive regulation could be counter-productive in a global economy that demands agility and innovation.

The European Union is focused on creating quality standards that would operate effectively across national boundaries. In the context of research, the prospective European Research Council would drive competition among the elite European research universities. In contrast, higher education in the United States was going through yet another period of critical self-evaluation,

stimulated in part by the formation of a National Commission on the Future of Higher Education (the Spellings Commission) demanding greater accountability for access, costs and learning outcomes, although there was some scepticism about whether this effort would have lasting impact. There was a paucity of debate in the US on the wider benefits of higher education at the local, regional, national and international levels.

In many higher education systems — particularly in Europe and the United States — there is increasing evidence of both under-planning and over-regulation by public bodies. The experience at both the regional and national level is that governments can regulate but they are usually unable as a corollary to develop effective plans for higher education. Yet both efforts may be for naught in an increasingly competitive global economy that will demand world-class standards for all activities, including higher education.

GLOBAL STRATEGIES FOR EMERGING UNIVERSITIES AND UNIVERSITY SYSTEMS

The challenges and opportunities presented by globalization are quite different both for and among the universities of developing economies. Nations with large populations, such as China, India and Brazil, face the dual challenge of building world-class universities even as they strive to expand the low participation in higher education (10% or less). Smaller nations such as Singapore and Korea have been able to achieve high participation rates (70% and 80%, respectively) and are now turning to forming international partnerships to enable them to build world-class universities and research activities. All recognize the importance of strong investment in both access to and excellence in tertiary education.

In order to face the challenges and demands of globalization, Chinese higher education institutions have been expanding and strengthening international academic exchange and cooperation, increasing the number of students going abroad as well as the number of foreign students studying in China, encouraging their faculty to constantly improve themselves and to develop research collaboration. A variety of mechanisms have been utilized, including inviting overseas universities to establish independent campuses in China, joint projects, programmes and institutes, and more recently overseas campuses established by Chinese universities. In an effort to boost several of its research universities to world-class status, China launched the "985" project to provide differential funding.

Although India is renowned for the quality of its engineering and management schools (IIT and IIM), it faces a serious massification challenge, with only 6% of 18- to 23-year-olds having opportunities for college education. It was noted that there are really two Indias: a global, prosperous state and an

underdeveloped society with inadequate opportunities. India needs many more universities, but these need to be smaller, more nimble and responsive to change. As a result, the trend toward globalization is largely tangential to India's higher education strategy.

As a small, young nation, Singapore recognized early that its people were its greatest asset, and investment in education was key to its success in a global economy. Massification of educational opportunities of increasing sophistication has been an objective, as Singapore's economy shifted from labour-intensive to capital-driven and now knowledge-driven activities. Its three major universities have been given sufficient autonomy to chart their own directions and build on their areas of strength. In addition the government has made significant investment in research excellence, including joint programmes with leading universities in the United States and Europe. These activities exist in an ecosystem, interacting with many parties — research institutes, businesses, government agencies and the wider community — and spanning education, economic, social and cultural dimensions. Singapore's higher education policy is now focusing both on improving undergraduate education and creating lifelong learning opportunities.

Korea's strategy and experience hve evolved along a similar track. Its Confucian culture has long placed a high premium on education, and as it has made the transition from a labour-intensive to a capital-intensive economy, it has made parallel investments in higher education to achieve an unusually high level of massification (with 80% of secondary-school graduates continuing on to college). Korea believes that an important consequence of economic globalization is that only a few leading universities will dominate the world of higher education, just as a few companies are dominating different industrial sectors worldwide. To this end, it has created the Korean Advanced Institute of Science and Technology (KAIST) and provided it with the autonomy and resources to compete with leaders such as MIT.

Brazil is a large and highly diverse nation, facing the challenge of rapidly expanding participation in tertiary education (currently at 12%) and increasing investments in R&D (currently at 0.37% of GDP compared to 1.38% for OECD nations). Although Brazil has established leading industries in areas such as agriculture, biofuels and aircraft, there is a recognized need to stimulate greater industrial research, both through national policy and relationships with Brazilian universities.

In the subsequent open discussion session, the issue of massification, the extension of higher education participation to a large segment of the population, was discussed. To date this has primarily been a strategy for developed nations, but in a knowledge economy where workforce skills and human capital are paramount, it has become an equally serious concern of the developing world. The developing nations were concerned with managing growth

towards a system of mass higher education in the context of high quality provision and social inclusion. Here some caution was raised about the impact of mass higher education on social inclusion. In some countries the expansion had been effectively an expansion of the middle classes and had relatively little impact on the percentage of lower working class students. Conceptually one could see examples across the globe where countries had pushed hard for mass higher education and then engaged more actively with the agendas for quality and excellence. Ideally, developing countries might fuse all three concepts into the development of their higher education systems.

The flow of students and faculty between developed and developing economies was also of particular concern. American universities actively go out in search of the brightest and the best students and young researchers. Young men and women aged 25-35 are attracted to the US for career development in respect of key research opportunities. These are the key years for young researchers. This proactive approach was not common in Europe. There is insufficient lateral movement of young researchers in Europe compared to movement from Europe to the United States.

Yet such migration of students and faculty members was a serious economic issue for some developing countries, leading to a "brain drain" of their students. It would be preferable to move towards a "brain circulation" scenario within which home countries were able to maintain a relationship with students once they had left their home country for career development overseas. It was important to maintain contact as a country and as a university with ex-students. Since the mid-1990s the Chinese government has had a policy of tracking the students taking up research opportunities overseas with the hope of attracting them back at some point in their career with the inducement of research contracts and relatively attractive salaries. This raises interesting questions about the implications for the development of scientific research and technology if Asia and Europe were able to attract back their researchers from the United States.

SHIFTING PARADIGMS

The forces driving globalization of the world's economy are both stimulating and demanding the development of new paradigms for higher education. Yet while universities continue to expand their international activities, they have yet to exhibit many of the key features of the global economy. Thomas Friedman suggests that an enterprise or industry could be said to be global if its transactions are transparent, its products widely distributed without reference to national boundaries, and its prices set in fully convertible currencies. In global enterprises both time and space come to mean less and less, and there is no hiding, no protection, no cultural sanctuaries — only the pursuit of high value commodities.

Yet the services and products research universities provide remain singular, unique and largely customized. Indeed, the unique programmes offered by leading universities are seen as key to their competitiveness. While universities encourage international student and faculty exchanges and seek both relationships and perhaps even campuses abroad, in reality they are still moored primarily to their home campus, exploiting their international activities both to attract new resources and reputation through a hub-and-spoke (or perhaps even colonial) paradigm. Finally, although information and communication technologies enable new forms of distance learning and collaboration, as yet these exist only at the margin for most institutions. Higher education continues to exhibit these three dichotomies — customized instead of standardized, here instead of there, real instead of virtual — that imply that while they are becoming more engaged with the world, they are not becoming globalized as has business and industry. It was suggested that perhaps higher education is a different kind of product — not ready to be standardized, still associated with particular places and specific traditions, and largely immune to the pressures for consolidation and amalgamation that have transformed the global providers of other service products.

Yet participants offered a number of new paradigms for higher education that were better aligned with the economic, social, political and cultural integration implied by globalization. For example, the traditional approach of university scholars stressing propositional knowledge might be wed with the prescriptive knowledge of the marketplace to create new academic value. The revolution currently underway in content development in the entertainment and communications industry, involving the merging of producers and consumers (e.g., YouTube, Wikipedia), along with new business models (e.g., Google, Amazon), suggest that universities have much to learn from these new collaborative approaches.

More generally, entirely new forms of higher education institutions might evolve. New types of universities may appear that increasingly define their purpose beyond regional or national priorities to address global needs such as health, environmental sustainability and international development — what one might call "universities in the world and of the world".

The exponential growth of new knowledge along with longer human lifespan make a sustained commitment to lifelong learning essential both for individuals and nations. An increasing number of nations are setting the ambitious goal of providing their citizens with pervasive, lifelong learning opportunities. Of course, this will require not only a very considerable transformation and expansion of the existing post-secondary education enterprise, but also entirely new paradigms for the conduct, organization, financing, leadership and governance of higher education.

One of the most exciting approaches to global connectivity is based upon an extension of the philosophy of open source software development to create new opportunities for learning and scholarship for the world by placing previously restricted knowledge into the public domain and inviting others to join both in its use and development. To the availability of open source software for educational purposes (e.g., Moodle and Sakai) and the open university movement have been added the open courseware projects led by MIT to put the digital assets undergirding thousands of courses in the public domain; the open learning initiative of Carnegie Mellon, Rice and others to provide learning materials; and most recently the massive effort by Google to digitize and provide search access to the combined collections of 25 leading academic libraries (estimated to hold over 50% of the printed material in the world). Such open educational resources provide the scaffolding on which to build truly global universities — what Charles Vest calls "meta" universities — a transcendent, accessible, empowering, dynamic, communally-constructed framework of open materials and platforms on which much of higher education worldwide can be constructed or enhanced.

Beyond this, one can only speculate about what it might mean if all of these elements could be combined: Internet-based access to all recorded (and then digitized) human knowledge augmented by powerful search engines, open source software, learning resources such as open courseware, open learning philosophies (open universities), new collaboratively developed tools (e.g., Wikipedia) and ubiquitous information and communications technology (e.g., Negroponte's $100 laptop computer or, more likely, advanced cell phone technology). In the near future it could be possible that anyone with even a modest Internet or cellular phone connection will have access to much of the recorded knowledge of our civilization along with ubiquitous learning opportunities. Imagine still further the linking together of billions of people with limitless access to knowledge and learning tools enabled by a rapidly evolving scaffolding of cyberinfrastructure increasing in power one-hundred to one thousand-fold every decade. Perhaps this, then, is the most exciting vision for the truly global university, no longer constrained by space, time, monopoly or archaic laws, but rather responsive to the needs of a global, knowledge society and unleashed by technology to empower and serve all of humankind.

While such paradigm shifts may seem radical, the Open University of the United Kingdom provides an "existence proof" that they are already being adopted and successfully implemented to a very considerable extent. The Open University portrays itself as offering higher education anywhere, anytime, on any platform and any screen, to students from 9 to 99! It has long provided leadership in the adoption of new technology and today is extending the open paradigm to new phenomena such as peer production and mass collabo-

ration as exemplified by MySpace, YouTube and Wikipedia. It views its deep commitment to openness as a key feature of the global, knowledge economy where value is added through sharing and collaboration in developing new knowledge rather than constraining its propagation. It has gone far beyond its traditional offerings ("OU Core") and the launching of open universities elsewhere ("OU Plus") to launch a major effort in providing access to open educational resources ("OU For Free"), accepting the mission of bring education to all who can benefit from it.

The open discussion session began with a further examination of the various forces driving the development of new paradigms for higher education. Higher education was fighting for public funding alongside many competing priorities including the needs of an aging population for healthcare and pension support. In the developed nations there was some movement away from the traditional concept of higher education being a public good. Increasingly the consumers of higher education in a lifelong learning context envisioned higher education as private good. Quite different business models were emerging in different countries even within the same broad policy goals. The mixed economy of private and public support for higher education will be a significant model for the future with the inevitable growth in private sector whether for academic or vocational higher education, although the debate on tuition fees remains an intensely political rather than economic one in many nations — though there are always some students who would be willing (and able) to pay a high premium for a non-standardized higher education experience of elite quality.

The college fee situation in the US was genuinely confusing in that the published fee was quite different from the discounted fee. Consumers needed to know the variations through publicly available data. The endowment situation in the United States was also particularly interesting where funds were accumulating through hedge fund activity and subject to challenge on the grounds that they are being used primarily for investment rather than for the provision of scholarly activity. Here Harvard University, with an endowment of roughly $35 billion (more than the combined endowments of all public universities in the US), is increasingly behaving as a bank and real estate developer rather than an academic institution. For other nations to emulate this model would require major changes in tax policy, e.g., to allow the tax deductibility of charitable contributions and endowment earnings.

The emerging of new needs for flexible workplace learning and vocational learning for skills development would be significant drivers of future demand in higher education and could open new markets for higher education. Yet the financial burden of continuing professional development was increasingly passing from the employer to the employee as large multinational companies were stripping out the costs and incentives for MBA and other postgraduate

programmes, hence demanding new financing mechanisms such as lifelong learning accounts and educational tax credits.

The discussion then moved to a broader consideration of new paradigms in higher education. It was agreed that the globalization of higher education would lead to a range of models of provision including the bespoke customized model existing alongside the harmonized and standardized model. Diversity was the watchword for higher education development in a global marketplace. In some parts of the world the drive to mass higher education would need to be linked to distance learning and new technology as these were the most cost-effective means of communication in some countries. Mass higher education in developed and developing countries would be driven in future more significantly by eLearning and new technology. Distance learning in particular would take advantage of new technology. We could all understand the worlds of open learning and open universities alongside the more traditional worlds of the liberal arts university or multi-faculty world-class research university, but did we really understand how these various models of higher education and research could and should interact within an ecosystem of higher education? We needed a shift in the mindset of politicians to tolerate and support new models of delivery to students of all ages. We need a far greater conceptual appreciation of the needs of the learner in an age of lifelong learning.

UNIVERSITIES IN THE WORLD AND OF THE WORLD

Globalization and the attendant emergence of the global knowledge economy are exerting tremendous pressures on universities around the world and reshaping some of their basic assumptions and activities. The international movement of students and scholars was the earliest expression of these conditions, and today it continues to be the most visible expression of the global nature of the higher education enterprise. While the movements of foreign students and scholars are well documented over the past half-century, the development of cross-border projects and programmes and offshore campuses and instructional programmes are of relatively recent ancestry. Most of these projects were based on bi-lateral relationships between a host institution in a developed economy and a nascent organization in a developing country. The development of offshore campuses and degree programmes represents a relatively new form of international activity. Led by the UK, the US and Australia, many universities offer professional degrees, often executive business administration programmes, in several countries.

Paradoxically, at a time when market pressures on higher education have resulted in reduced government regulation, the expansion of international markets in higher education may provoke new sources of regulation. This level of international activities and some of the attendant concerns (e.g., the

predatory role of some for-profit institutions in developing economies) have stimulated interest on the part of international organizations such as WTO and GATS. These international negotiations address critical issues and may well provide an appropriate framework for some aspects of the offshore delivery of higher education that remains in its infancy.

Part of the challenge is balancing the opportunities presented by globalization to higher education with the risks. For example, market forces driven by the threat of competition or the lure of profit can drive the transformation of some aspects of higher education into commercial businesses. Universities have traditionally been communities of individuals who come together around the joy of new knowledge discovery and the satisfaction of passing along the skills of learning to the next generation. The rewards of such academic careers have usually been intrinsic, associated with the freedom characterizing academic pursuits and the prestige accompanying faculty positions rather than monetary compensation. Yet today a knowledge-driven economy has placed high value on entrepreneurial efforts to spin off the intellectual property from research into the marketplace, leading not only to possible conflict with academic values and obligations, but also numerous battles over research sponsorship, intellectual property ownership, licensing, and commercialization.

More broadly, the globalization of higher education has significant implications for people and for nation-states. The proportion of foreign students from developing nations studying for professional degrees or doctorates in the university system of the major industrialized is large, and many stay on, contributing to brain drain. Although their home countries make the investment in their early education, the eventual returns accrue to the developed nations providing their advanced education and future employment. For the home countries of these people, there is an externalization of benefits and an internalization of costs. Since in the future, knowledge is bound to be critical in the process of economic growth and social progress, without correctives, the widening gap between the haves and the have-nots could then be transformed into a widening gap between those who know and those who know-not.

If the interest, or indeed the obligation, of mature universities in the developed world towards the developing world is to assist in development, rather than simply to exploit a market, then certain principles should be accepted: universities should accept a fundamental purpose as enlarging human freedom; universities must themselves be free institutions, free from government interference or control, places where the principles of academic freedom are understood and protected; in mature universities, the faculty should have a central role in the governance of the institution, the development of its curriculum and the selection of other faculty; mature universities should have the goal of building the capacity of universities in the developing countries; and

the quality standards for education transmitted to developing countries should not be inferior to those of developed countries.

While universities must be responsive to the imperatives of a global economy and attendant to their local responsibilities, they must also become responsible members of the global community, that is, becoming not only universities in the world but also of the world. Yet the challenges facing our world such as poverty, health, conflict and sustainability not only remain unmitigated, but in many respects become even more serious through the impact of the human species — global climate change being foremost among them.

One promising approach is for universities to address their global responsibilities is to join together with government and industry in promoting sustainable development. Here sustainability is defined as the efforts made to secure the long-term prosperity and stability of humankind. In this broader sense, sustainability encompasses not only environmental issues but also political and institutional sustainability. Both the Glion Declaration of 1998 and the "Magna Carta Universitatum" signed in Bologna in 1988 by the leaders of European universities stressed this broader sense of institutional responsibility. Yet to capture both the attention and commitment of university faculty will likely require more, such as strong incentives to align their scholarship, teaching and service activities more with the needs of the world.

Deepak Nayyer reminds of us an ancient Buddhist proverb which states that "the key to the gate of heaven is also the key which could open the gate to hell". Markets and globalization provide a mix of opportunities and dangers for higher education. But the nature of higher education — and our institutions — must be shaped by higher purposes for which the university has been created, shaped and sustained throughout the last millennium.

The great difference between being responsive and being responsible lies in the fact that, in the first case, universities should be receptive to what society expects from them; in the second case, they should have the ambition to guide reflection and policy-making in society. Yet it is also the case that universities must also understand and accept that their most fundamental roles revolves about academic rather than political values. The global knowledge economy requires thoughtful, interdependent and globally identified citizens. Institutional and pedagogical innovations are needed to confront these challenges and insure that the canonical activities of universities — research, teaching and engagement — remain rich, relevant and accessible.

The last discussion session involved a wide-ranging consideration of both the opportunities and responsibilities of higher education in an increasingly interconnected and interdependent world. Is globalization igniting change or compounding change in higher education, and what particular or unique configuration will come out of the globalization of higher education? Many universities might well think and act globally, but in reality they are rooted in

local and regional communities and therefore connected locally. The models of collaboration existing around the world were generally static. What would represent a step change function in these models? The biggest step change in the past two decades globally had been the growth in undergraduate student numbers absorbed in many cases within a higher education system designed initially for an elite system of higher education.

But many questions remain. Does the curriculum provided for students prepare them as "students of and for the world"? To what extent did our students receive what some would describe as the "liberal education"? Will the government policy responses be the same across the globe to the challenges of building and achieving mass higher education, world-class research excellence and the demographic challenge? What are the enlightenment values of higher education: civilizing values, rational inquiry and multiculturalism? Are we preparing our students adequately for global citizenship?

Universities are able to provide social solutions to social problems in society as well as providing science and technology solutions. A future topic for Glion might be the extent to which universities across the world could work together creatively on some of the present and future problems facing the planet. Why not use the influence and contacts of the Glion group to harness the global strengths of higher education to tackle key issues such environmental, economic and political sustainability?