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Patterns in Higher Education Development

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Universities are singular institutions. They have common historical roots yet are deeply embedded in their societies. Established in the medieval period to transmit knowledge and provide training for a few key professions, in the nineteenth century universities became creators of new knowledge through basic research.¹ The contemporary university is the most important institution in the complex process of knowledge creation and distribution, serving as home not only to most of the basic sciences but also to the complex system of journals, books, and databases that communicate knowledge worldwide.² Universities are key providers of training in an ever growing number of specializations. Universities have also taken on a political and cultural function in society, serving as centers for the civil society. At the same time, academe is faced with unprecedented challenges, stemming in large part from a decline in resources. After almost a half century of dramatic expansion worldwide, universities in many countries are being forced to cut back on expenditures and, in some cases, to downsize. The unwritten pact between society and higher education that provided expanding resources in return for greater access for students as well as research and service to society has broken down, with significant implications for both higher education and society.

This chapter is concerned with the patterns of higher education development evident in the post-World War II period throughout the world, analyzing some of the reasons for these trends and pointing to likely directions for universities in the coming decades. Issues such as autonomy and accountability, research and teaching, reform and the curriculum, and the implications of the massive expansion of universities in most countries are of primary concern.

A Common Heritage

There is only one common academic model worldwide. The basic European university model, established first in Italy and France at the end of the twelfth century, has been significantly modified but remains the universal pattern of higher education. The Paris model placed the professor at the center of the institution and enshrined autonomy as an important part of the academic ethos. It is significant that the major competing idea of the period, the student-dominated University of Bologna, did not gain a major foothold in Europe, although it had some impact in Spain and later in Latin America.³ The university rapidly expanded to other parts of Europe—Oxford and Cambridge in England, Salamanca in Spain, Prague and Krakow in Central Europe—and a variety of institutions in the German states were established in the following century.

Later, the European imperialist nations brought universities to their colonies, along with other accoutrements of colonialism. The British, for example, exported academic models first to the American colonies and later to India, Africa, and Southeast Asia.⁴

The French in Vietnam and West Africa, the Spanish and the Portuguese throughout Latin America, the Dutch in Indonesia, the Americans in the Philippines, and other colonial powers also exported academic institutions.⁵ Colonial universities were patterned directly on institutions in the metropole but often without the traditions of autonomy and academic freedom in the mother country.⁶

The university has by no means been a static institution but has changed and adapted to new circumstances. With the rise of nationalism and the Protestant Reformation in Europe, the universal language of higher education, Latin, was replaced by national languages. Academic institutions became less international and more local in their student bodies and orientations and were affected by their national circumstances, Protestant Amsterdam differing, for example, from Catholic Salamanca. Harvard University, although patterned on British models, slowly developed its own traditions and orientations, reflecting the realities of colonial North America. Academic institutions have not always flourished. Oxford and Cambridge, strongly linked to the Church of England and the aristocracy, played only a minor role in the industrial revolution and the tremendous scientific expansion of the late eighteenth and nineteenth centuries.⁷ In France, universities were abolished after the revolution, in 1793; gradually, they were reestablished, and the Napoleonic model became a powerful force not only in France but also in Spain and Latin America.⁸ German universities, which were severely damaged during the Nazi period by the destruction of autonomy and the departure of many professors, lost their scientific preeminence.⁹

For the purposes of this chapter, two more recent modifications of the Western academic model are relevant. In the mid-nineteenth century, a newly united Germany harnessed the university for nation building. Under the leadership of Wilhelm von Humboldt, German higher education was given significant resources by the state, took on the responsibility for research aimed at national development and industrialization, and played a key role in defining the ideology of the new German nation.¹⁰ German universities also established graduate education and the doctoral degree. For the first time, research became an integral function of the university, and the university was reorganized as a hierarchy based on the newly emerging scientific disciplines. American reformers further transformed higher education by stressing the relationship between the university and society through the concept of service and direct links with industry and agriculture. They also democratized the German chair system, through the establishment of academic departments, and developed the land-grant concept for both research and expanded access to higher education.¹¹ Thus, even institutions that seem deeply embedded in national soil have in fact been influenced by international ideas and models.

Virtually without exception, the institutional pattern followed by the world's universities derives from these Western models. Significantly, in one of the few remaining fully non-Western institutions, Al-Azhar University in Cairo, which focuses mainly on traditional Islamic law and theology, science faculties are now organized along European lines.¹² There are many variations of the Western model—open universities, two-year vocational institutions, teacher training colleges, polytechnics—but while the functions of these institutions differ from those of traditional universities, their basic organization, pattern of governance, and ethos remain remarkably close to the Western academic ideal.¹³

Networks of Knowledge and Higher Education

There are many explanations for the dominance of the Western academic model. The institutionalization of the study of science and, later, scientific research are central elements. The link between universities and the dominant world economic systems no doubt is an important reason for Western hegemony. In many parts of the world, academic institutions were imposed by colonizers, and there were few possibilities to develop independent alternatives. Indigenous institutional forms were destroyed, as in nineteenth-century India with the British imposition of European patterns.¹⁴ None of the formerly colonized nations have shifted from their basically European academic model; the contemporary Indian university, for example, resembles its preindependence predecessor.

Japan, which was never colonized, recognized after 1868 that it had to develop scientific and industrial capacity and jettisoned its traditional academic institutions in favor of Western university traditions, importing ideas and models from Germany, the United States, and other countries. Other noncolonized nations, such as China and Thailand, also imported Western models and adapted them to local needs and conditions.¹⁵

The harnessing of higher education to the broader needs of national economic and social development was perhaps the most important innovation of this era. Western universities were seen as successful in providing advanced education, fostering research and scientific development, and assisting their societies in the increasingly complex task of development. Universities in both the United States and Germany fostered industrial and agricultural development. The idea that higher education should be supported by public funds, that the university should participate in the creation as well as the transmission of knowledge, and that academic institutions should at the same time be permitted a degree of autonomy was behind much of the growth of universities in the nineteenth century. Further, Western universities were at the center of a knowledge network that included research institutions, the means of knowledge dissemination such as journals and scientific publishers, and an “invisible college” of scientists. As science became more international, a common scientific language emerged, first German, and since the mid-twentieth century, English. Even scholars in such industrialized nations as Sweden and the Netherlands often communicate their research findings in English. The large Dutch multinational publishers Elsevier and Kluwer publish virtually all of their scholarly and scientific books and journals in English.

The circulation of scholars and students worldwide—even the so-called brain drain—is an element of the international knowledge system, helping to circulate ideas and also maintaining the research hegemony of the major host countries. More than one and one-half million students study outside their home countries, the large majority of them from Third World nations and the newly industrializing countries of the Pacific rim. They are studying in the industrialized nations, especially the United States, Britain, France, and Germany. Japan is both a major sending and major receiving country.¹⁶

As a result of their sojourns abroad, students gain expertise in their studies but also learn the norms and values of the Western academic system, often returning home with a zeal to reform their local universities. Frequently, foreign graduates have difficulty readjusting to their home countries, in part because the advanced training they acquire abroad may not be easily assimilated into less industrialized economies. Such frustrations, along with significantly better remuneration in industrialized countries, lead to the brain drain. However, in the contemporary world, brain drain is often not

permanent. Members of the Third World scientific diaspora maintain contact with their colleagues at home, contributing advanced knowledge and ideas.¹⁷ They often return home for periods of time to work with local academics and, increasingly, return home permanently, when conditions are favorable. These returning students bring with them to their native countries considerable expertise and often assume leadership positions in the local scientific and academic communities. With few exceptions, knowledge and institutional patterns are transferred from the major industrialized nations to the Third World—or even to more peripheral industrial countries—with very little traffic in the other direction.¹⁸

The knowledge network is complex and multifaceted; while its centers remain extraordinarily powerful, there is a movement toward greater equalization of research production and use. Japan, for example, already has a powerful and increasingly research-oriented university system, and some of the newly industrializing countries of East and Southeast Asia are building research capacity in their universities, with China playing a particularly important role.¹⁹ But while hegemony may be slowly dissipating, inequality remains endemic in the world knowledge system.

Expansion: Hallmark of the Postwar Era

Postsecondary education has expanded since World War II in virtually every country in the world. This growth has, in proportional terms, been more dramatic than that of primary and secondary education. Writing in 1975, Martin Trow spoke of the transition from *elite* to *mass* and then to *universal* higher education in the context of the industrialized nations.²⁰ The United States enrolled some 30 percent of the relevant age cohort (eighteen- to twenty-two-year-olds) in higher education in the immediate postwar period, while European nations generally maintained an elite higher education system, with fewer than 5 percent attending postsecondary institutions. By the 1960s, many European nations were educating 15 percent or more of the age group; in 1970, Sweden enrolled 24 percent, France 17 percent. That year, the United States increased its proportion to more than 50 percent and was approaching universal access. By the end of the twentieth century, most Western European countries had increased their enrollment rates to about half, thus reaching close to “universal” access. Thus, while American patterns of access have stabilized, Europe and many newly industrializing countries continue to expand.

In the Third World, expansion has been even more dramatic. Building on tiny and extraordinarily elitist universities, Third World higher education expanded rapidly in the immediate postindependence period. In India, enrollment grew from approximately 100,000 at the time of independence, in 1947, to more than 4 million in the 1990s. Expansion in sub-Saharan Africa has also been rapid, with the postsecondary student population growing from 181,000 in 1975 to more than 1.7 million two decades later. Expansion continues despite economic crisis and the AIDS epidemic. There has been a decline in per capita student expenditure and this has contributed to a decline in academic standards.²¹

Similar trends can be seen among other non-Western countries. In a few instances, such as the Philippines, where more than one-third of the age cohort enters postsecondary education, enrollment ratios have reached those of industrialized nations, although in general the Third World lags far behind in terms of proportion of the population attending higher education institutions. Even China, with more than 14 million students in postsecondary education (approximately the same number as the United States)

enrolls only 15 percent of the age group. Expansion in the Third World has, in general, exceeded that in the industrialized nations, at least in proportional terms. Among the highest rates of expansion and participation are in Asian newly industrializing countries, such as South Korea and Taiwan, and recently in Latin America as well.

Regardless of political system, level of economic development, or educational ideology, the expansion of higher education has been the single, most important trend worldwide. About 7 percent of the relevant age cohort attends postsecondary educational institutions, a statistic that has increased each decade since World War II. Higher education expanded first in the United States, then in Europe, and later in the Third World and the newly industrializing countries. Women now constitute approximately 40 percent of university enrollment, with considerable variation by country. The industrialized nations, with a few exceptions, have a higher proportion of the age cohort in postsecondary education than Third World countries. Generalized statistics concerning enrollments in postsecondary education mask many key differences. For example, industrialized nations have, in general, a higher proportion of students in technological and scientific fields than in liberal arts, which tend to predominate in the developing nations—although even here there are exceptions, such as China.

There are many reasons for the expansion of higher education, a central one being the increasing complexity of modern societies and economies, which demands a more highly trained workforce. Almost without exception, postsecondary institutions have been called upon to provide the required training. Indeed, training in many fields that was once imparted on the job has become formalized in institutions of higher education. Whole new fields, such as computer science, have come into existence and rely on universities as a source of research and training. Nations now developing scientific and industrial capacity, such as South Korea and Taiwan, as well as emerging agents China and India, depend on academic institutions to provide high-level training as well as research expertise.²²

Not only do academic institutions provide training, they also test and provide certification for many occupations in contemporary society. These roles have been central to universities since the medieval period but have been vastly expanded in recent years. A university degree is a prerequisite for an increasing number of occupations in most societies. Indeed, academic certification is necessary for most positions of power, authority, and prestige in modern societies, which places immense power in the hands of universities. Tests to gain admission to higher education are rites of passage in many societies and are important determinants of future success.²³ Competition within academe varies from country to country, but in most cases stress is also placed on high academic performance and tests. There are often further examinations to permit entry into specific professions.

The role of the university as an examining body has grown for a number of reasons. As industrial and economic expansion has taken place, more sorting mechanisms have been needed. The older, more informal, and often more ascriptive means of controlling access to prestigious occupations no longer provide the controls needed, nor are they perceived as fair. Universities are seen as meritocratic institutions, which can be trusted to provide impartial tests to measure accomplishment and, therefore, to determine access. When such mechanisms break down—as they did in China during the Cultural Revolution—or when they are perceived as subject to corrupt influences—as in India—

universities are significantly weakened. Furthermore, entirely new fields have developed for which no sorting mechanisms exist, and academic institutions are frequently called upon to provide not only training but also examination and certification.

Expansion has also occurred because the growing segments of the population of modern societies demand it. The middle classes, seeing that academic qualifications are necessary for success, demand access to higher education, and governments generally respond by increasing enrollment.²⁴ When governments do not move quickly enough, private initiative frequently establishes academic institutions to meet the demand. In countries like India, the Philippines, and Bangladesh, as well as in many Latin American nations, a majority of the students are educated in private colleges and universities.²⁵ At present, there are powerful worldwide trends toward imposing user fees in the form of higher tuition charges, increasing the stress on private higher education, and in general considering higher education as a private good, in economic terms. These changes are intended to reduce the cost of postsecondary education for governments while maintaining access, although the long-term implications for the quality of, access to, and control over higher education remain unclear.

In most societies, higher education is heavily subsidized by the government, and most, if not all, academic institutions are in the public sector. While there is a growing trend toward private initiative and management sharing responsibility with public institutions, governments will likely continue to be a central source of funding for postsecondary education. The dramatic expansion of academic institutions in the postwar period has proved very expensive for governments. Nonetheless, the demand for access has been extraordinarily powerful.²⁶

Many analysts writing in the 1960s assumed that the world, and particularly Western industrialized nations, would move from elite to mass and finally to universal access to higher education, generally following the American pattern. But the path to universal access has proved to be circuitous.²⁷ For a period in the 1970s, expansion slowed, only picking up again in the late 1980s. The nations of the European Union are in general moving toward U.S. levels of access. The causes for the slowdowns were in part economic, given the problems in the Western economies that followed the oil shocks of the 1970s; in part demographic, resulting from a significant drop in the birth rate and a smaller cohort of young people; and in part philosophical, as countries became less sympathetic to the growth of public institutions, including universities. Generally, the proportion of the age cohort going on to higher education in Western Europe stabilized at under 20 percent in the 1970s; it began to increase again in the late 1980s and continues to expand.²⁸ This expansion has taken place in a context of steady population trends and has been impelled by changes in European economies, which have moved to the postindustrial stage. By 2003, most Western European countries were sending half of their age group on to postsecondary education.

In sharp contrast to Western industrialized countries, Third World universities have, in general, continued to expand without interruption. With only a very few exceptions, such as the Philippines, Third World enrollment ratios remain significantly lower than those in the industrialized nations, but there continues to be a strong commitment to continued expansion and access. This is the case even in countries like India, where there is severe unemployment of graduates and a brain drain of university graduates. In many Third World countries, it remains impossible for local universities to absorb all of

those qualified to attend, creating an exodus of students abroad. This is the case in, for example, Malaysia.²⁹ As in the industrialized nations, there is a notable trend toward shifting the burden of funding for higher education from the state to the individual.

The Third World presents a special set of circumstances. Unmet demand, an expanding middle class, and continuing population growth in many countries mean that the bulk of the world's higher education growth in the coming decades will be in developing countries. Many of these countries are building more complex economies that require more skilled workers, and this too contributes to expansion. Even if political authorities wanted to slow expansion, they would find it impossible to do.

General agreement that postindustrial economies need large numbers of university graduates means that participation rates in the industrialized world will continue to expand. At the same time, the retirement of the large cohort of people hired in the 1960s will open additional highly skilled jobs. At the same time, demographic trends will limit the need for more university places.³⁰

Change and Reform: The Legacy of the Sixties

The demands placed on institutions of higher education to accommodate larger numbers of students and to expand their functions resulted in reforms in higher education in many countries. Much debate has taken place concerning higher education reform in the 1960s, and a significant amount of change did take place.³¹ Without question, the student unrest of the period contributed to disarray in higher education. This unrest was in part precipitated by deteriorating academic conditions, which were the result of rapid expansion. In a few instances, students demanded far-reaching reforms in higher education, especially an end to the rigid, hierarchical organization of the traditional European university.³² The chair system was modified or eliminated, and the responsibility for academic decision making, formerly a monopoly of full professors, was expanded—in some countries, to include students. At the same time, the walls of the traditional academic disciplines were broken down by interdisciplinary teaching and research.

Reform was greatest in several traditional Western European academic systems. Sweden's universities were completely transformed: decision making was democratized, universities were decentralized, educational access was expanded to previously underserved parts of the country, interdisciplinary teaching and research was instituted, and the curriculum was expanded to include vocational courses.³³ Reforms also took place in France and the Netherlands, where reformers stressed interdisciplinary studies and the democratization of academic decision making. In Germany, the universities in states dominated by the Social Democratic Party were also reformed, with the traditional structures of the university giving way to more democratic governance patterns.

In the 1990s, the major trend in restructuring European universities has been improving administrative efficiency and accountability. Many of the reforms of the 1960s were modified or even eliminated. Students, for example, have less power now. In the Netherlands, national restructuring increased the power of administrators. Similar trends can be seen in Germany, Sweden, and other countries.

In many industrialized nations, structural change was modest. In the United States, for example, despite considerable debate during the 1960s, there was very limited change in the structure or governance of higher education.³⁴ Japan, where unrest disrupted

higher education and spawned a number of reports on university reform, experienced virtually no basic change in its higher education system, although several “new model” interdisciplinary institutions were established, such as the science-oriented Tsukuba University near Tokyo. Britain, less affected by student protest and with a plan for expansion in operation, also experienced few reforms during the 1960s.³⁵ Some of the changes implemented at that time have been abandoned. In Germany, reforms in governance that gave students and junior staff a dominant position in some university functions were ruled unconstitutional by German courts.³⁶

Many of the structural reforms of the 1960s were abandoned after a decade of experimentation or were replaced by administrative arrangements that emphasized accountability and efficiency. Outside authorities, such as government—but also including business, industry, and labor organizations—came to play a more important role in academic governance. Curricular innovations have proved more durable; interdisciplinary programs and initiatives and the introduction of new fields such as gender studies remain.

At the end of the twentieth century, there was a second wave of reforms evident worldwide. These reforms can be characterized as a “managerial revolution” in higher education, where the overall goal was to ensure more accountability and efficiency in the management of academic institutions. These reforms generally increased the power of administrators and reduced faculty authority and, in the public sector, provided for more supervision by government authorities. These changes were stimulated both by the growing size and complexity of many academic institutions and systems and by a desire to rein in expenditures. Efforts were made to privatize elements of public institutions and, in some countries, to stimulate the private sector in higher education.

Vocationalization has been an important trend in the past two decades. Throughout the world, there is a conviction that the university curriculum must provide relevant training for a variety of increasingly complex jobs. Students, worried about obtaining remunerative employment, have pressed universities to focus more on job preparation. Employers have also demanded that the curriculum become more relevant to their needs. Enrollment in the social sciences and humanities, at least in industrialized nations, has declined.

Curricular vocationalism is linked to another worldwide trend in higher education: the increasingly close relationship between universities and industry.³⁷ Industrial firms have sought to ensure that the skills they need are incorporated into the curriculum. This trend also has implications for academic research, since many university/industry relations are focused largely on research. Industries have established formal linkages and research partnerships with universities to obtain help with research of interest to them. In countries such as Sweden, representatives from industry have been added to the governing councils of higher education institutions. In the United States, formal contractual arrangements have been made between universities and major corporations to share research results. In many industrialized nations, corporations provide educational programs for their employees, sometimes with the assistance of universities.

Technical arrangements with regard to patents, confidentiality of research findings, and other fiscal matters have assumed importance as university/industry relations have become crucial. Critics also point out that the nature of research in higher education may be altered by this relationship, as industrial firms are not usually interested in basic

research. University-based research, which has traditionally been oriented toward basic research, may be increasingly skewed to applied and profit-making topics. There has also been some discussion of research orientation in fields like biotechnology, in which broader public policy matters may conflict with the needs of corporations. Specific funding arrangements have also been questioned. Pressure to serve the training and research requirements of industry has implications for the organization of the curriculum, the nature and scope of research, and the traditional relationship between the university and society.³⁸

The traditional idea of academic governance stresses autonomy, and universities have tried to insulate themselves from the direct control of external agencies. However, as universities expand and become more expensive, there is immense pressure by those providing funds for higher education—mainly governments—to expect accountability. The conflict between autonomy and accountability has been a flashpoint for controversy in recent years. Without exception, university autonomy has shrunk, and administrative structures have been put into place in such countries as Britain and the Netherlands to ensure greater accountability.³⁹ The issue takes on different implications in different parts of the world. In the Third World, traditions of autonomy have not been strong, and demands for accountability, both political and economic, sometimes mean government domination of academe.⁴⁰ In the industrialized nations, accountability pressures are usually more fiscal in nature.

Despite the varied pressures on higher educational institutions for change and the significant reforms that have taken place in the past two decades, there have been few structural alterations in universities. One of the few places where this has occurred is Sweden. Elsewhere, curricula have been altered, expansion has taken place, and there have been continuing debates concerning accountability and autonomy, but universities as institutions have not changed significantly. As Edward Shils has argued, the “academic ethos” has been under strain, and while in some ways it has been weakened, it has so far survived.⁴¹

The Millennium

The university is a durable institution. The modern university retains key elements of the historical models from which it sprang even while evolving to serve the needs of societies during a period of tremendous change.⁴² There has been a convergence of ideas and institutional patterns and practices in higher education, due in part to the implantation of European-style universities in developing areas during and after the colonial era and in part to universities’ having been crucial to the development and internationalization of science and scholarship. Many of the changes discussed here are the result of great external pressure and were instituted despite opposition from within the institution. Some scholars argue that the university has lost its soul.⁴³ Others claim that the university is irresponsible because it uses public funds without meeting the needs of industry and government. Pressure from governmental authorities, militant students, and external constituencies have all placed great strains on academic institutions.

The period since World War II has been one of unprecedented growth in universities, and higher education has assumed an increasingly central role in virtually all modern societies. While growth may continue, the dramatic expansion of recent decades is at an end, at least in the industrialized countries. It is unlikely that the position of the university as the most important institution for training in virtually all of the top-level

occupations in modern society will be weakened, although other institutions have become involved in training. The university's research role is more problematical because of the fiscal pressures of recent years. There is no other institution that can undertake basic research, but the consensus that has supported university-based basic research has weakened.⁴⁴

The challenges facing universities are, nonetheless, significant. The following issues are among those that will be of concern in the coming decade and beyond.

Access

Access remains a controversial issue in most countries. Worldwide, higher education is more readily available to wealthier segments of the population. With expansion, the demand has broadened, and providing access to lower-income groups is a challenge, especially in the context of fiscal constraints in higher education. Even in the United States, where access is relatively open regardless of social class because of a highly differentiated higher education system and government-sponsored loan and grant programs, some racial and ethnic minorities remain underrepresented in the student population. There is greater inequality of access in Western Europe, although there is widespread commitment to broaden participation. In much of the rest of the world, the lack of participation of those with low incomes, rural youths, and in some countries, women remains a central issue. Access remains a challenge of both concern and controversy.

Administration, Accountability, and Governance

As academic institutions become larger and more complex, there is increasing pressure for professional administration, as in the United States. At the same time, the traditional forms of academic governance are increasingly criticized for being unwieldy and, in large and bureaucratic institutions, inefficient. As the administration of higher education increasingly becomes a profession, an "administrative estate" will be established. Growing demands for accountability will cause academic institutions considerable difficulty. And as academic budgets expand, there will be inevitable demands to monitor and control expenditures. At present, no general agreement exists concerning the appropriate level of governmental involvement in higher education. The challenge will be to ensure that the traditional—and valuable—patterns of faculty control over governance and basic academic decisions are maintained in a complex and bureaucratic environment. Worldwide, the rise of "managerialism" and ever more complex bureaucratic arrangements is part of the academic landscape. So far, the trend is for traditional governance to lose authority and power.

Knowledge Creation and Dissemination

Research is a central part of the mission of many universities and of the academic system generally. Decisions that will be in contention in the future will concern the control and funding of research, the relationship of research to the broader curriculum and teaching, the uses made of university-based research, and related issues. Further, the system of knowledge dissemination, including journals and books and computer-based data systems, is rapidly changing. Who should control the new data networks? How will traditional means of communication, such as journals, survive in this new climate? How will the scientific system avoid being overwhelmed by the proliferation of data?⁴⁵ Who will pay for the costs of knowledge dissemination? The needs of peripheral scientific systems, including both the Third World and smaller academic

systems in the industrialized world, have been largely ignored but are, nonetheless, important.⁴⁶

Information technology (IT) has become a central element of the knowledge distribution network. Individual scientists and scholars use the Internet for direct communication. Databases accessible on the World Wide Web are increasingly important. Libraries use a greater number of electronic resources to access journals and other kinds of information and data. Issues such as the ownership of knowledge, the cost of access to electronic networks, and the influence of new electronic journals and other publications, among others, remain to be determined. At present, publishers and other data providers in the United States and other English-speaking countries stand to gain most from the new technologies. The effect on academic institutions, especially in developing countries, remains unclear in terms of access and cost.

Major Western knowledge producers currently constitute a kind of cartel of information, dominating not only the creation of knowledge but also most of the major channels of distribution. Simply increasing the amount of research and creating new databases will not ensure a more equal and accessible knowledge system. Academic institutions are at the center, but publishers, copyright authorities, funders of research, and others are also necessarily involved.

The Academic Profession

In most countries, the professoriate has been under great pressure in recent years. Demands for accountability, the increased bureaucratization of institutions, fiscal constraints in many countries, and an increasingly diverse student body have all challenged the professoriate. In most industrialized nations, a combination of fiscal problems and demographic factors led to a stagnating profession.⁴⁷

Circumstances vary by region, but some factors are evident worldwide. Fiscal problems create multiple difficulties. Remuneration has not kept up with either cost of living or salaries offered elsewhere in the economy, and it is now difficult to lure the “best and brightest” to academe. The terms of academic appointments have deteriorated in many places—tenure has been abolished, for example, in Britain, and in many countries, a larger proportion of the profession is part time. Traditional career ladders have been modified. Class sizes have increased and academic autonomy has been limited. Pressures on the professoriate, not only to teach and do research but also to attract external grants, do consulting, and earn additional income for themselves and for their universities have grown. The difficulties faced by the academic profession in developing countries are perhaps the greatest—to maintain a viable academic culture under deteriorating conditions and without the protection of established norms.

Private Resources and Public Responsibility

In almost all countries there has been a growing emphasis on increasing the role of the private sector in higher education. One of the most direct manifestations of this trend is the role of the private sector in funding and directing university research. In many countries, private academic institutions have expanded or new ones have been established. Students are paying an increasing share of the cost of their education as a result of tuition and fee increases and through loan programs. Governments try to limit their expenditures on postsecondary education. Privatization has been the means of achieving this broad policy goal.⁴⁸ Inevitably, decisions concerning academic developments will move increasingly to the private sector, with the possibility that

broader public goals may be ignored. Whether private interests will support the traditional functions of universities—including academic freedom, basic research, and a pattern of governance that leaves the professoriate in control—is unclear. Some of the most interesting developments in private higher education can be found in such countries as Vietnam, China, and Hungary, where private institutions have recently been established. Private initiatives in higher education will bring a change in values and orientation, but it is not clear that these values will be in the long-term best interests of the university. At the beginning of the twenty-first century, the major expansion of higher education worldwide is taking place in the private sector.

Diversification and Stratification

While diversification—the establishing of new postsecondary institutions to meet diverse needs—is not new, it is of primary importance and will continue to reshape the academic system. In recent years, the establishment of research institutions, community colleges, polytechnics, and other academic institutions designed to meet specialized needs and to serve specific populations has been a primary characteristic of growth. At the same time, the academic system has become more stratified—individuals in one sector of the system find it difficult to move to a different sector. There is often a high correlation between social class (and other variables) and participation in a particular sector. To some extent, the reluctance of traditional universities to change is responsible for some of the diversification. Perhaps more important is the belief that limited-function institutions are more efficient and less expensive. An element of diversification is the inclusion of larger numbers of women and other previously disenfranchised segments of the population. Women now constitute 40 percent of the student population worldwide and more than half in many industrialized countries.⁴⁹ In many countries, students from lower socioeconomic groups and racial and ethnic minorities have entered postsecondary institutions in significant numbers.

Economic Disparities

The substantial inequalities among the world's universities and academic systems are likely to grow. Major universities of the industrialized nations generally have the resources to play a leading role in scientific research, in a context in which it is increasingly expensive to keep up with the expansion of knowledge.⁵⁰ Universities in much of the Third World, however, simply cannot cope with the increased enrollments, budgetary constraints, and in some cases, fiscal disasters. Universities in much of sub-Saharan Africa, for example, have experienced dramatic budget cuts and find it difficult to function, not to mention to improve quality and compete in the international knowledge system.⁵¹ Academic institutions in the Asian newly industrializing countries, where significant academic progress has taken place, will continue to improve. Thus, the economic prospects for postsecondary education worldwide are mixed.

Conclusion

Universities share a common culture and a common reality: in many basic ways, there is a convergence of institutional models and norms. At the same time, there are significant national differences that will continue to affect the development of academic systems and institutions. It is unlikely that the basic structures of academic institutions will change dramatically: the Humboldtian academic model will survive, although administrative structures will grow stronger and the traditional power and autonomy of the faculty will diminish. Open universities and other distance education institutions

may provide new institutional arrangements, and efforts to save money may yield further organizational changes. Unanticipated change is also possible; while the emergence of significant student movements, at least in industrialized nations, do not seem likely, circumstances may change.⁵² The situation for universities in the first part of the twenty-first century are not, in general, favorable. The realities of higher education as a “mature industry” in industrialized countries, with stable rather than growing resources, will affect not only the funds available for postsecondary education but also academic practices. Accountability, the impact of technologies, and the other forces discussed in this chapter will all affect colleges and universities, although patterns will vary. Some academic systems, especially those in the newly industrializing countries, will continue to grow. In parts of the world affected by significant political and economic change, the coming decades will be ones of reconstruction. Worldwide, the coming period is one of major challenge for higher education.

NOTES

I am indebted to Robert Arnove, the late Gail P. Kelly, and Lionel Lewis for their comments on an early version of this chapter and to Lalita Subramanyan and Patricia Murphy for their help with editing.

1. For a historical perspective, see Charles Haskins, *The Rise of Universities* (Ithaca: Cornell University Press, 1957).
2. Philip G. Altbach, *The Knowledge Context: Comparative Perspectives on the Distribution of Knowledge* (Albany: State University of New York Press, 1987).
3. For further discussion of this point, see A. B. Cobban, *The Medieval Universities: Their Development and Organization* (London: Methuen, 1975).
4. The history of British higher education expansion in India and Africa is described in Eric Ashby, *Universities: British, Indian, African* (Cambridge: Harvard University Press, 1976).
5. See Philip G. Altbach and Viswanathan Selvaratnam, eds., *From Dependence to Autonomy: The Development of Asian Universities* (Dordrecht, Netherlands: Kluwer, 1989).
6. Irene Gilbert, “The Indian Academic Profession: The Origins of a Tradition of Subordination,” *Minerva* 10 (1972): 384–411.
7. For a broader consideration of these themes, see Lawrence Stone, ed., *The University in Society*, 2 vols. (Princeton: Princeton University Press, 1974).
8. Joseph Ben-David, *Centers of Learning: Britain, France, Germany, the United States* (New York: McGraw-Hill, 1977), 16–17.
9. Friedrich Lilge, *The Abuse of Learning: The Failure of the German University* (New York: Macmillan, 1948).
10. Charles E. McClelland, *State, Society, and University in Germany, 1700–1914* (Cambridge: Cambridge University Press, 1980). See also Joseph Ben-David and Awraham Zloczower, “Universities and Academic Systems in Modern Societies,” *European Journal of Sociology* 3 (1962): 45–84.
11. In the German system, a full professor was appointed as head (chair) of each discipline, and all other academic staff served under his direction; the position was permanent. Many other countries, including Japan, Russia, and most of Eastern Europe, adopted this system. On developments in America, see Laurence Veysey, *The Emergence*

of the American University (Chicago: University of Chicago Press, 1965); E. T. Silva and S. A. Slaughter, *Serving Power: The Making of the Academic Social Science Expert* (Westport, Conn.: Greenwood, 1984).

12. For a discussion of the contemporary Islamic university, see H. H. Bilgrami and S. A. Ashraf, *The Concept of an Islamic University* (London: Hodder and Stoughton, 1985).

13. Philip G. Altbach, "The American Academic Model in Comparative Perspective," in *Comparative Higher Education*, ed. Philip G. Altbach (Greenwich, Conn.: Ablex, 1998), 55–74.

14. See David Lelyveld, *Aligarh's First Generation: Muslim Solidarity in British India* (Princeton: Princeton University Press, 1978).

15. Michio Nagai, *Higher Education in Japan: Its Take-off and Crash* (Tokyo: University of Tokyo Press, 1971). See Altbach and Selvaratnam, *From Dependence to Autonomy*, for case studies of Asian universities.

16. See Philip G. Altbach, David Kelly, and Y. Lulat, *Research on Foreign Students and International Study: Bibliography and Analysis* (New York: Praeger, 1985).

17. Hyaeweol Choi, *An International Scientific Community: Asian Scholars in the United States* (Westport, Conn.: Praeger, 1995).

18. The number of American students studying abroad is only a small proportion of the number of foreign students studying in the United States, and the large majority of Americans who do study in other countries go to Canada and Western Europe. See also Robert Arnove, "Foundations and the Transfer of Knowledge," in *Philanthropy and Cultural Imperialism*, ed. Robert Arnove (Boston: Hall, 1980).

19. For a discussion of higher education development in the newly industrializing countries, see Philip G. Altbach et al., *Scientific Development and Higher Education: The Case of Newly Industrializing Countries* (New York: Praeger, 1989).

20. Martin Trow, "Problems in the Transition from Elite to Mass Higher Education," paper prepared for a conference on mass higher education held by the Organization for Economic Cooperation and Development, 1975.

21. See Task Force on Higher Education and Society, *Higher Education in Developing Countries: Peril and Promise* (Washington, D.C.: World Bank, 2000).

22. Altbach et al., *Scientific Development and Higher Education*.

23. Max A. Eckstein and Harold J. Noah, "Forms and Functions of Secondary School Leaving Examinations," *Comparative Education Review* 33 (1989): 295–316.

24. Academic institutions serve as important sorting institutions, sometimes diverting students from highly competitive fields. See, for example, Steven Brint and Jerome Karabel, *The Diverted Dream: Community Colleges and the Promise of Educational Opportunity in America, 1900–1985* (New York: Oxford University Press, 1989).

25. Roger L. Geiger, *Private Sectors in Higher Education: Structure, Function, and Change in Eight Countries* (Ann Arbor: University of Michigan Press, 1986). For a focus on Latin America, see Daniel C. Levy, *Higher Education and the State in Latin America: Private Challenges to Public Dominance* (Chicago: University of Chicago Press, 1986). See also Philip G. Altbach, ed. *Private Prometheus: Private Higher Education and Development in the 21st Century* (Westport, Conn.: Greenwood, 2000).

26. World Bank, *Education in Sub-Saharan Africa* (Washington, D.C.: 1988), strongly argues against continued expansion of higher education, believing that scarce educational expenditures could be much more effectively spent on primary and secondary education. See also D. Bruce Johnstone, *Sharing the Costs of Higher Education: Student Financial Assistance in the United Kingdom, the Federal Republic of Germany, France, Sweden and the United States* (Washington, D.C.: College Board, 1986).
27. Trow, "Problems in Transition."
28. See Ladislav Cerych and Paul Sabatier, *Great Expectations and Mixed Performance: The Implementation of Higher Education Reforms in Europe* (Trenton, England: Trenton Books, 1986), pt. 2.
29. Jasbir Sarjit Singh, "Malaysia," in *International Higher Education: An Encyclopedia*, ed. Philip G. Altbach (New York: Garland, 1991).
30. There are also significant national variations. For example, Britain under Margaret Thatcher's leadership consistently reduced expenditures for postsecondary education, with significant negative consequences for higher education. See, for example, Sir Claus Moser, "The Robbins Report 25 Years After: And the Future of the Universities," *Oxford Journal of Education* 14 (1988): 5–20.
31. For broader considerations of the reforms of the 1960s, see Cerych and Sabatier, *Great Expectations*; Ulrich Teichler, *Changing Patterns of the Higher Education System* (London: Kingsley, 1989); Philip G. Altbach, ed., *University Reform: Comparative Perspectives for the Seventies* (Cambridge, Mass.: Schenkman, 1974).
32. For an example of an influential student proposal for higher education reform, see Wolfgang Nitsch et al., *Hochschule in der Demokratie* (Berlin: Luchterhand, 1965).
33. Jan Erik Lane and Mac Murray, "The Significance of Decentralization in Swedish Education," *European Journal of Education* 20 (1985): 163–72.
34. See Alexander W. Astin et al., *The Power of Protest* (San Francisco: Jossey-Bass, 1975), for an overview of the results of the ferment of the 1960s on American higher education.
35. "The Legacy of Robbins," *European Journal of Education* 14 (1988): 3–112.
36. For a critical viewpoint, see Hans Daalder and Edward Shils, eds., *Universities, Politicians, and Bureaucrats: Europe and the United States* (Cambridge: Cambridge University Press, 1982).
37. See, for example, "Universities and Industry," *European Journal of Education* 20 (1985): 5–66.
38. Of course, this is not a new concern for higher education. See Thorstein Veblen, *The Higher Learning in America: A Memorandum on the Conduct of Universities by Business Men* (New York: Viking, 1918).
39. See Klaus Hufner, "Accountability," in *International Higher Education: An Encyclopedia*, ed. Philip G. Altbach (New York: Garland, 1991).
40. Philip G. Altbach, "Academic Freedom in Asia: Learning the Limitations," *Far Eastern Economic Review*, June 16, 1988.
41. Edward Shils, *The Academic Ethic* (Chicago: University of Chicago Press, 1983).
42. See Ben-David and Zloczower, "Universities and Academic Systems."

43. See, for example, Robert Nisbet, *The Degradation of the Academic Dogma: The University in America, 1945–1970* (New York: Basic Books, 1971). Allan Bloom, in his *The Closing of the American Mind: How Higher Education has Failed Democracy and Impoverished the Souls of Today's Students* (New York: Simon and Schuster, 1987), echoes many of Nisbet's sentiments.

44. In those countries that have located much of their research in nonuniversity institutions, such as the academies of sciences in Russia and some Central and Eastern European nations, there has been some rethinking of this organizational model, a sense that universities may be more effective locations for major research. Since the collapse of the Soviet Union, there have been some moves to abolish the academy model. See Alexander Vucinich, *Empire of Knowledge: The Academy of Sciences of the USSR (1917–1970)* (Berkeley: University of California Press, 1984).

45. See Thomas W. Shaughnessy et al., "Scholarly Communication: The Need for an Agenda for Action—A Symposium," *Journal of Academic Librarianship* 15 (1989): 68–78. See also *Scholarly Communication: The Report of the National Commission* (Baltimore: Johns Hopkins University Press, 1979).

46. These issues are discussed in Altbach, *The Knowledge Context*. For a different perspective, see Irving Louis Horowitz, *Communicating Ideas: The Crisis of Publishing in a Post-Industrial Society* (New York: Oxford University Press, 1986).

47. For an American perspective, see Martin Finkelstein, Robert Seal, and Jack H. Schuster, *The New Academic Generation: A Profession in Transformation* (Baltimore: Johns Hopkins University Press, 1998).

48. Levy, *Higher Education*. See also Geiger, *Private Sectors in Higher Education*.

49. Gail P. Kelly, "Women in Higher Education," in *International Higher Education: An Encyclopedia*, ed. Philip G. Altbach (New York: Garland, 1991).

50. A possible exception to this situation are universities in Britain, where a decade of financial cuts by the Thatcher government sapped the morale of the universities and made it difficult for even such distinguished institutions as Oxford and Cambridge to continue top-quality research. See Geoffrey Walford, "The Privatization of British Higher Education," *European Journal of Education* 23 (1988): 47–64.

51. World Bank, *Education in Sub-Saharan Africa* (Washington, D.C.: World Bank, 1988), 68–81.

52. For a survey of student movements, see Philip G. Altbach, ed., *Student Political Activism: An International Reference Handbook* (Westport, Conn.: Greenwood, 1989).

Research on learning pattern development in higher education contexts is scarce. This longitudinal study seeks to address this issue by analysing the development of students' learning patterns throughout University College. Vermunt's Inventory of Learning Styles was used to assess individual differences in learning conceptions and learning strategies. By examining intra-individual changes in learning patterns we expected to find developmental trends within learning patterns. Results show that meaning oriented learning increases over time and undirected learning decreases. Some learn

It is important for higher education systems, institutions, and individuals (Altbach and Knight 2007), and its momentous relevance concerns not only the broad sphere of higher education, but extends beyond its boundaries as well. It is commonly recognised, for example, that internationalisation has an impact on the development and competitiveness of national and regional economies. The following section presents key elements of the proposed new conceptual framework for the study of the patterns in funding of internationalisation. The relevance of this approach is also discussed along with illustrations regarding possible new insights that could be obtained from such an analysis.

2 A Conceptual Framework for the Study of Patterns of Funding of Internationalisation.

- Higher education is an axial institution because it provides the expertise for those who are in the command posts of post-industrial society.
- Expansion of services economy idea to include business services by Thomas Stanback and colleagues in the 1980s.
- "Knowledge society" idea adopted by OECD in 1996. Daniel Bell. Institutionalizing Global Culture.
- Higher education sustains the modern professions and contributes to the rationalization of society and state through processes of legitimation of the views of elites carried by transnational bodies such as the OECD.
- The supra-national and Around the world, tuition at universities is rising at a much faster rate than inflation and challenging students' return on investment. Reduced government funding and higher operating costs are driving the need for change at universities. The mismatch in employer needs and employee skills is leaving over seven million jobs unfilled in the U.S. These trends are opening the way for new approaches in higher education. Innovations in how post-secondary education are delivered, financed, and recognized are driven by a range of actors from large public universities like Arizona State University to