Worldwide Expansion and Change in the University*

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The university has been a central institution in the Modern society of the last two centuries. And it has become even more central in the last half-century of the post-Modern (or "knowledge") society. There has been a great deal of intellectual discussion – often laden with normative implications, given the university's cultural importance – of the relation between the university and society. Persistently troubling have been questions about whether or how the university survives (or can or should survive) over our period, given that it seems so clearly ill-equipped to meet the technical-functional demands of increasingly complex and differentiated social systems. In empirical reality, the university has done very well, and gains or retains near monopolies in ever-expanding higher education. The intellectual problem, from the point of view of perspectives emphasizing the importance of higher education in training people for the increasingly differentiated society, is to explain why the university is not replaced by more efficient arrangements.

In this chapter, we challenge the notion that the primary role of the university is functionally linked to training for the differentiated society. We offer an alternative analytical framework, portraying both the "knowledge" society and the university as institutions of modernity – bundles of cultural assumptions and organizational rules, akin as much to religion as to technology, with the appearance of enduring reality

* The ideas presented here reflect collaborative work carried out over many years, as referenced in the text. Work on the paper itself was supported by grants (to Francisco O. Ramirez and John W. Meyer) from the Freeman Spogli Institute of Stanford University, and from the Spencer Foundation (20060003), and by a grant (to David John Frank) from the Center for the Study of Democracy at the University of California, Irvine.

(Berger/Luckmann 1967, Thomas et al. 1987). From this point of view, the university is less about training people for jobs in the complex society, and more about establishing the ground rules for this society – the doctrines that local realities and actions can and should be seen in terms of universal principles. In empirical terms, our alternative institutional framework turns out to have rather substantial advantages over standard views on the university and its expansion. We illustrate some of these advantages with qualitative comparative data from the late 1800s and the year 2000, drawn from the course catalogs of Harvard University and the University of Tokyo. Our intention is to put forward concrete instances showing the nature of and change in the university, with an eye to the future development of a more comprehensive empirical base.

I. Background

Over the whole Modern period, and especially the last 50 (post-Modern) years, the university has expanded enormously all over the world across many different dimensions. There are many indicators of the changes.

1) There is first the simple fact of proliferation (Riddle 1990, 1993). Globally, there are now a great many more universities in a great many more countries than there were even a few decades ago. Today, virtually no place on Earth is left wanting. In 1964, for example, one of the world's five poorest countries – Burundi – opened the doors to its first university, l'Université du Burundi (CIA 2005); and in 1985, one of the world's last remaining sultanates – Brunei – announced the opening of the Universiti Brunei Darussalam. Across countries and also within them, the sheer number of universities multiplies extraordinarily.

2) Second, student enrollments have risen rapidly, not only growing explosively in number but also becoming substantially more diverse. Around 20 percent of the relevant age cohort worldwide now enrolls in higher education – a nearly tenfold increase from 1950 (Schofer/Meyer 2005, Meyer/Schofer in this volume). Further, the students enrolled are not just elite men from rich countries, as once would have been true (Karabel 2005). For example in the world's middle-income countries during the eight-year period from 1995 to 2003, tertiary enrollment jumped 77 percent on average, nearly tripling in growth leaders Malaysia and Egypt (UNESCO 2005). Among the legions of new university entrants are many sorts of people once excluded – typically on grounds of categorical ineducability – most obviously including women (Bradley/Ramirez 1996, Ramirez/Wotipka 2001). Thus by 1999 for example, nearly 82,000 of the 185,000 students at Egypt's Cairo University were

female. Everywhere during the period, student rosters lengthen and diversify.

3) As the examples above imply, expansion in universities and student enrollments characterizes every sort of society in the modern world. Socio-economic development, complexity, and differentiation – supposedly the master determinants of modern expansion – turn out to make surprisingly little difference in predicting expansion, posing a considerable explanatory problem for conventional arguments (Windolf 1997, Schofer/Meyer 2005).

4) During the whole Modern period, the university has furthermore expanded by incorporating more and more kinds of cultural materials. In consequence, departments and degree programs have rapidly multiplied. A student at the University of Wisconsin in 1879, for example, chose between just six possible majors. The same student in 2005 faced a dizzying array of 155 possibilities. An increase of such magnitude represents more than just differentiation in existing university-knowledge domains (although differentiation obviously occurs). Whole new territories of study – some once forbidden, others ignored or forgotten – entered into the university's dominion. In the modern university, one can learn about how to raise children, or about the cultures of formerly stigmatized groups. A few of the new topics seem exotic, but only just a few. By far the largest single extension of the university's academic purview involved the invention and absorption of the social sciences over the last century (Frank/Gabler 2006). Scarcely found just a century ago, the sciences of society, in fields such as economics and psychology, now show up globally as standard fare on academic menus. In many other areas, too, the university stakes its claims.

5) Along these same lines, yet another indicator of university expansion is found in the growth of the organization itself, which over the centuries has broadened to include scores of additional organizational elements and professional staff categories. Most visible, perhaps, is the elongating faculty roster. In a broad sample of British Commonwealth universities between 1955 and 1995, mean faculty numbers spiraled upward from 270 to 711 (Gabler/Frank 2005). Faculty enlargement, however, merely tipped the organizational iceberg. A managerialism wave washed over universities globally during this period (Drori et al. 2006, Ramirez 2006, Krücken/Meier 2006), spurring considerable organizational growth far beyond the faculty ranks – in a wide array of new administrative, service, and management posts. Whole new categories of employee, once unheard of on university campuses, began to appear routinely. By 2005, for example, Stanford University boasted four vice presidents: for public affairs, university resources, business affairs, and

general counsel. None had clear academic responsibilities. Thus far from the professorial ranks and also deeply within them, the university organization swells over time.

Alongside these five developments – which on a global basis produce many more universities in many more countries, many more students, many more objects of study, and much enlarged organizations – there is another kind of expansion. The university's interrelationships with society have grown enormously. Over the Modern and now post-Modern periods, first slowly and then with growing rapidity, new bridges have multiplied, leading from society into the formerly insular Ivory Tower. In increasing numbers, as a result, various political, economic, and cultural entities – many once barred from the premises – have been allowed (and invited) to penetrate the university's old walls, in some cases becoming direct university partners and stakeholders with claims on the university's autonomy. Problems and demands and resources from every institution in contemporary society are brought to the university calling for relevant research and teaching. The university is supposed to help improve arcane business practices, public policies, family life, and kindergarten education. It is to help design more conserving and healthy lavatory facilities. And it must aid in the preservation of ethnic cultures and histories now undercut by too much progress.

All this expansion is sometimes regarded with alarm, as if the university of a past Golden Age is now losing purity confronted with extra-academic demands (and money). But even as the process of the penetration of the university by expanded societal elements has proceeded, so has its reverse – with equal or even greater force. If the university is under siege from the "knowledge society," a formerly more innocent society is even more penetrated by the authority of the university. Dramatically and pervasively during the last two centuries, and especially in the recent post-Modern period, the university has invaded society. Now, huge segments of the occupational role structure and its elites, the legitimating foundations of the stratification system, and even socio-economic progress itself all have come to rest on the bases of university knowledge and university-certified personnel. In sorting through job applicants, for example, education-based discrimination is often encouraged and sometimes compelled by law, at the same time that virtually every other form of discrimination is strictly prohibited. Moving in both directions, then, the pathways between university and society proliferate and enlarge during the period of study, carrying vastly more traffic over time (Schofer 1999). Thus along these and other dimensions, one witnesses the university's extraordinary growth, rising almost monotonically over the whole course of Modernity and diffusing worldwide. With

the recent onset of post-Modernity the university's expansion has not only continued unabated but sharply intensified. The question, of course, concerns why.

II. Interpretations of Higher Educational Change

Given the picture painted above, one might expect to find an ebullient tone in the higher-education literature, as scholars applaud the university's enviable ascent over recent centuries. By a whole host of measures, including those outlined above, the university has been a dramatic success, both organizationally and culturally. There is obviously much to celebrate. This naïve expectation would be misplaced, however. Broadly speaking, the literature on university expansion has a darker, ill-humored quality. One finds two versions of the same basic story.

A) In a partially optimistic version, the university's expansion and increased social embedding are themselves positive developments – key, even, to collective and individual advancement. The putative crisis lies in the fact that the promise of university expansion is nowhere close to being fulfilled on any key dimension, and perhaps cannot be fulfilled. In this vein there are arguments that as yet there are too few universities in the developing world (Teferra/Altbach 2003), too little participation from racial and ethnic minorities (Feagin/Vera/Imani 1996), too few women in the physical sciences (Etzkowitz/Kemelgor/Uzzi 2000), and too little integration among the realms of science, technology, and society (Klein et al. 2004). A huge policy literature follows these same lines (e.g., World Bank 2000). Growth is good in this story of university expansion, but much more university expansion and improvement is needed to accommodate the many people, subject matters, and societal interests still standing outside the door. The basic perspective, here, is that the complex and differentiated society requires a great deal of specialized training and research – more, possibly, than the university, as a unified public institution, can provide. Perhaps it will, and perhaps it should, be replaced by more specialized educational arrangements. The line of argument goes back to the early-Modern period of the turn of the nineteenth century. It was commonly thought that the university was a medieval survival, and would (and should) be replaced by specialized Modern arrangements such as the French polytechnics. In our own post-Modern time, similar lines of thought celebrate, with a mixture of hope and fear, every sign that some new innovation – private for-profit training, training and research in industry, non-academic technical training,

or schooling that breaks out of the old tenure-laden academic mold – might be eating into the university's substantial monopoly.

B) The second version of the university-expansion story is less optimistic at the outset. According to it, the university's long-term growth represents not triumph so much as decline, expressing, for instance, lowered academic standards and classroom philistinism (Hofstadter 1963, Nussbaum 1997, Bloom 1987, Readings 1996, Kors/Silvergate 1998). By the same token, the university's elaborating ties with society are interpreted not as indicators of centrality but as signs of subservience and fragmentation, reflecting the university's heightened subordination to powerful and academically impure outside interests (Aronowitz 2000, Slaughter/Leslie 1997, Kirp 2003, Geiger 2004, Washburn 2005, see Brint 2002 for a moderated view). Growth per se is probably a negative trend in this version of the university expansion story, and thus the university's phenomenal rise over the Modern and post-Modern periods rings like a funeral bell, tolling for the Golden Age (Rojstaczer 1999).

Versions of this dystopia appeared throughout the nineteenth century, emphasizing the loss of traditional high culture, high standards, and supposedly disinterested scholarship. But they were relatively weak in a period that so much celebrated its progress. In the recent post-Modern period of explosive university growth, they have been much stronger, and criticisms of the university's fragmentation and extensive links with society have been routine. Despite their obvious differences, both these interpretations of the university's expansion share an important set of realist assumptions. According to these, society is a naturally occurring collective entity that consists of an interdependent system of roles. "Modern" society is distinguished from its predecessors by its heightened degrees of differentiation and complexity. And the post-Modern "knowledge society" is characterized by even greater differentiation, complexity, and thus dependence on university knowledge. From this starting point, it follows that universities emerge to help train individuals to function in highly specialized and complex roles. Advanced training in role-related skills and techniques helps to prepare students to function in today's multifaceted world.

Thus, the university's expansion over the Modern and post-Modern periods can be readily explained. It is driven at root by society's technical-functional requirements. Society's increasingly complex and differentiated needs and roles, that is, demand ever-more from the university by way of specialized knowledge, socialization, and technical training (e.g., Gumport/Snydman 2002, Teferra/Altbach 2003). In typical realist scenarios, it is society's evolving needs that catalyze the university's expansion. This standard realist assessment is widely shared, though nor-

mative evaluations may differ. In the nineteenth century, and now, it has been easy to celebrate change as progress (which expands, but may undercut, the unified university). And in the nineteenth century, and now, it has been easy to see the overall social changes as anomic and their consequences for the old integrated culture as a tragic loss of meaning. In either normative perspective, the same cognitive analysis – of a complex society demanding more and more specialized research and training to fill its role requirements – obtains. This broad realist framework for understanding university expansion is persuasive and widely accepted. But it falls short empirically. In many clear-cut ways, it fails to reckon with some of higher education's most prominent features.

1) This is visible first in the fact of university expansion itself. One of the realist framework's clearest implications is that the university should be replaced by more specialized knowledge modules, tightly linked to the role system. The idea is that the ever-propagating needs of contemporary society ultimately become so variable and specialized that they cannot be served by a generalist institution of learning. Accordingly, analysts over two or three centuries have predicted (and sometimes encouraged) the university's demise – branding it a medieval institution ill-suited for the Modern/post-Modern world. This is obviously not the outcome observed. On the contrary, there is the bald fact – detailed above – that the university by no means weakens over recent centuries but rather strengthens, rising even while maintaining its fully integrated "university" form. There is little credible evidence that specialized and differentiated forms of training are edging out the old university.

2) Second, the empirical shortcomings of the realist framework are evident in the fact that the university's growth, especially as of late, has proceeded at a much faster pace than a needs-based accounting can accommodate. To offer just one specific example, the worldwide lift-off in higher-educational enrollments that began in the 1960s corresponded to no global-economic sea change, leaving the standard account without a catalyst (Schofer/Meyer 2005).

3) A third limitation with the prevailing framework follows a similar logic: if universities were in fact serving local-societal needs around the world – which themselves are highly variable – one would expect much more heterogeneity in academic emphases than one in practice observes. But expansion characterizes every type of national society in the world, from the most to the least developed or complex. And in substance, the university's teaching and research priorities take rather standardized forms globally, in all manner of local contexts, to an extent that confounds realist imageries (Frank/Gabler 2006).

4) A final problem with the realist literature is that universities prove to be rather ineffective at precisely the tasks that are alleged to drive their growth, and they are rarely held accountable for being so. This means, for example, that at the collective level there is little evidence that universities per se spur the pace of economic development (Schofer et al. 2000, Rubinson/Browne 1994, Chabbott/Ramirez 2000). As for individuals, while a university education obviously elevates one's job prospects, it does almost nothing to elevate one's job performance. The university certifies individuals, in other words, without actually preparing them to meet occupational role demands (Berg 1970, Collins 1971). It seems obvious that more specialized training arrangements, linked closely to societal roles, would be more efficient than the deliberately isolated university.

In all these ways, empirically, conventional perspectives on university expansion leave much to be desired. Thus we face a new set of questions. Namely, what problems hinder the standard analyses of university expansion, and how can they be resolved? In formulating our answers, we shift analytical priority from the realist grounds of the action system to the phenomenological grounds of the institutional system. From this new point of view, we re-conceptualize both society and the university and then also university expansion.

III. Argument

To explain the university's vigorous development over the last several centuries, we draw on the insights of sociological institutionalism (Berger and Luckmann 1967, Thomas et al. 1987, Jepperson 2002, Hasse/Krücken 2005, Meyer et al. 1997, Meyer et al. 2006). Institutional theory originated in the 1960s and 1970s in opposition to the functional and conflict theories then prevalent, challenging the realist assumptions common to both (Meyer 1977). Institutional theorists called attention to the ways that the actors and actions encountered in everyday life are, to a great extent, enacting highly general external models designating what exists in the world, what capacities those existents have, and how those existents are (or are not) interconnected. Such models are institutionalized insofar as they are embedded in cultural scripts and organizational routines, often at the world level, and insofar as they appear and operate as rule-like assumptions with universal pertinence (e.g., it is firmly institutionalized that one cannot retire before starting to work; it is even more firmly institutionalized that boys are different from girls). Institutional models not only influence but more fundamentally constitute the

main features of local interactional settings. Thus from the institutional purview, understanding the particular actions of particular actors typically offers less insight or analytical leverage than understanding the sources and contents of the models they are enacting.

Thus from an institutional perspective, Modern society is defined not as a system of interdependent roles but rather as a set of rule-like assumptions, at the core of which is the notion that the universe can be understood, and to some extent manipulated, by regular persons in general terms (universalism). Doing so involves delineating the features of the universe and their capacities (ontological elaboration) and specifying their causal interrelations (rationalization). Thus is Modernity known as the Age of Reason. Under the umbrella of reason, nation-states and citizens take form as the master entities of Modernity, and relative to their forebears, they have broad action capacities – i.e., abilities to bring about preordained ends effectively and predictably, as only the gods could do traditionally. These action capacities are premised in significant measure on the assertion of a disenchanted and orderly natural cosmos – i.e., one that operates according to fixed and reliable "natural laws," such that human exertions in the world can have consistent and expected effects. From these premises emerge the modern conceits of progress and justice – notions that self-conscious human intervention can improve the world and make it a fairer place. In practice, of course, all of these models – of nation-state and citizen and orderly nature – diffuse very broadly over time, to the point that alternative models become virtually unimaginable (Strang 1990, Ramirez/Soysal/Shanahan 1998, Frank et al. 2000). World War II produced major changes in these patterns. Most significantly, it stigmatized corporate entities – religious, familial, ethnic, and especially national. A world society emerged founded upon the ultimate rights of human individuals, bound together by common humanity and embedded in a scientized nature and rationalized society (Meyer et al. 1997, Boli 2005). In the new post-Modern conceptual scheme, all actorhood resides finally in individualized persons, and its range and extent are even greater than what Modern nation-states and citizens enjoyed (Meyer/Jepperson 2000). The authority of the new human individual extends into all sorts of realms formerly controlled by fates (with individuals even claiming sovereignty, increasingly, over matters of life and death). Within this context, post-Modern movements such as those promoting human rights and global environmentalism take form.

From these starting blocks, the university is not seen to arise to service the needs of the reified societal machine but rather on the premise that "knowledge" is possible. "Knowledge" involves human understand-

ings of a very particular kind – those that pertain in abstract and broad-spectrum terms. To raise one's children well is not to have knowledge; to articulate the general principles by which children are well raised is to have knowledge – no matter the state of one's own children. Universities recast concrete, local, and particular understandings into abstract, global, and universal knowledge. Thus, the university thrives over the Modern and post-Modern periods on the increasingly applicable assumption that the entities, capacities, and relationships comprising the bases of reality can be understood in a global vocabulary. In the pre-war Modern period, society and the cosmos took hybrid forms that were partly universalized (as the nation-state, or nature) and partly nationalized (the United States, the sentimentalized buffalo). The distinguishing feature of post-Modernity is that universalized understandings of reality vastly expand. There is a growing interpenetration of the global and the universal with the local and the particular. The change is particularly marked in the constitution of "society" – which expands from bounded nation-states and their distinctive citizens to the whole world of generic human individuals. But nature, too, is universalized in post-Modernity. One sees the move most clearly in the declining emphasis on natural resources – an image hitched to the purposes of the nation-state – and the rising primacy of the ecosystem – as life-support system for the planet (Frank et al. 2000). From an institutionalist standpoint, the university is a secular canopy, drawing cultural matters, people, and nature under a universalized umbrella, and providing religious-like cultural unity.

To summarize – our overall argument here is that Modern and post-Modern societies rest on a central conceit with quasi-religious pretenses: that the world is a unified and lawlike place, comprehensible to everyday persons. Our argument helps explain why the university does not yield to technically-superior competition. The university survives and flourishes over recent centuries as the locus of this conceit – the repository of universalized knowledge – not as the training ground for an increasingly complex role system. The university's rapid growth in the most recent decades is based on the expanding possibilities for universalistic understandings, as nation-states and citizens give way to a world society made up of human individuals. The university's isomorphism worldwide follows from the fact that universities spread in a top-down process – instantiating models institutionalized in world society – not from the bottom-up. And the university succeeds at certifying much better than it succeeds at training because training is not the point. The university may be bad at teaching skills, but it is good at re-envisioning local particulars as global universals. It is even better at conveying the meta-principle that all sorts of local particulars can be abstracted into

global universals. And it is stunningly successful in establishing the principle and the social reality that an enormous proportion of young people have the capacity and inclination to comprehend the global universals, and to enter into a global elect.

IV. Empirical Illustrations

Our argument carries a number of specific implications for university knowledge and student knowers. In this section, we articulate some of these and consider them in light of illustrative data drawn from the course catalogs of Harvard University at 1853 and 2000 and the University of Tokyo at 1899 and 2000. The data were culled from careful readings of the catalogs, and they may represent general phenomena. But with only two cases, we are not in a strong position to generalize. Our present observations simply suggest dimensions on which a more formal research design might usefully be built. We approach the data with specific expectations, in five distinct areas, that flow from our general argument. (A) Overall, we expect to observe a great deal of universalism in university structures and curricula throughout the period of our study – it is our core argument that the university has always been more about articulating the universal than about training particular social locales. We also expect to see changes over time in the nature of university knowledge: (B) In both universities, we expect to find a very great expansion in the range of domains of knowledge, and in links between knowledge and society; and (C) we expect that the domains of proper knowledge extend to include all of society, including the experience of individuated students freed from rigid disciplines. Finally, we expect to see changes in the roles of the students: (D) We expect to find much expansion in numbers and types of students; and (E) also in the interests, and qualities and choices these students may legitimately have and make.

A. The Universalism of Knowledge

Basic to our argument is the notion that university knowledge is about relating the particular to the general and universal. It is not mainly about generating techniques and skills for the manipulation of the particular, but about asserting the dominance of the universal. Thus, "knowledge" in the university does not refer to practical understandings, in the line of job skills and occupational training. Rather, knowledge refers to universalistic understandings, including general properties, abstract analyses,

and common principles that carry widespread meaning and relevance. Empirical observations offer strong support:

1) It is often difficult, in examining university catalogues, to find much curricular material that directly indicates just what country, place, and period the catalogue is covering. The Tokyo catalogues look surprisingly conventional when compared to others from around the world, and so do the Harvard catalogues. In both cases, change over a century is striking, of course, but the changes do not seem closely attuned to the particulars of either nation's experience. Even a researcher inexperienced with either university, either country, or any period covered, would find it easy to examine the content of the curricula at hand. For example by the end of the twentieth century, science curricula in both countries are more differentiated and specialized, but the specializations involved can easily be followed and understood by specialists anywhere in the world. Daily life and interaction in Tokyo and Massachusetts naturally involve much arcane understanding. This is most dramatically not true of the corresponding university curricula.

2) Another indicator of universalism appears in the detailed contents of courses that initially appear to be immediately and obviously role-related. There are two outstanding examples from Tokyo in 1899 (then the Imperial University). First, there is a course on "Horse-shoeing" that seems certain to be practice-oriented but on examination proves to be something else entirely – a sweeping introduction to the horseshoe in culture and history:

"The specimens relating to horse-shoeing are hoofs, drawings illustrating the position of the bones of the horse in various attitudes and while in motion; also normal shoes from various parts of Europe, America, China and Korea; shoes for diseased hoofs, winter-shoes, abnormal hoofs, etc., – in all upwards of 200 specimens. There is also a set of historical specimens of horse-shoes dating from antiquity down to the present." (p. 191)

Likewise, there is a course on "Manures," which covers such highly general matters as:

"Researches on the Composition, Treatment, and Application of Night-soil as a Manure […]. Researches on the Action of Lime as Manure, With Special Regard to Paddy Fields […]. Comparative Experiments of the Effect of Various Phosphatic Manures on Upland Soil." (p. 26-27)

At Tokyo in 1899 – and we suspect generally – such heavily-applied-sounding courses turn out to be surprisingly academic. What at first suggests role training turns out to be universalization.

3) Another illustration of the universalistic bases of university knowledge is found in what is and is not credited for Independent Study at Harvard in the year 2000. The Handbook for Students provides the following guidelines:

"Studying the financial accounting system of a business firm might be an appropriate project, but working in an accounting office to gain business experience would not by itself merit academic credit. Investigating child development through observation in a day care center could qualify, but simply tutoring a child would not. Analyzing the organization of a political group might be a suitable subject, whereas organizing a political campaign would not alone suffice. In each case what distinguishes the suitable project is the application of analytical skills to the object of the Independent Study, not the intrinsic worthiness or instructiveness of the experience." (p. 54)

Quite clearly, the mastering of practical skills does not alone suffice for Harvard course credit. It is the application of "analytical" skills – wherein particular matters are considered in general terms – that puts one over the line.

4) A final indicator of the universalism of "knowledge" appears in its scope of application. Much that was learned at Tokyo in 2000 was understood to be applicable all over the world. Thus, "the faculty, administration, and student body are always aware of the importance of improving the University in any way possible […] to meet the changing needs of the society and of the world" (p. 7), and the "majority of the [Engineering] graduates have contributed, or are contributing, to the progress and advancement of engineering science and industry in this country and the world at large" (p. 133). Meanwhile, the faculty of Agriculture was reorganized to "overcome the burst of world population and the concomitant food crisis in the coming 21st century" (p. 213). And finally, Tokyo's website boasts that the university has "scientific exchange agreements concluded with more than 170 universities worldwide," involving approximately 8,000 researchers. Knowledge in Tokyo is knowledge around the world.

Throughout these examples, the overall point is straightforward. "Knowledge" in the university is not that which ties students to jobs; knowledge is that which ties particulars to universals.

B. Change in University Knowledge: Expansion

A central implication of our argument is that there should be huge overtime expansions in the cultural domains that are formulated in terms of university knowledge. Vast extensions in social context occur with the fall of nation-state-based cultural and organizational barriers, increasing the scale of knowledge production and also the pool of potential beneficiaries. At the same time, unprecedented actorhood is distributed to the world of individuals. Under these conditions an enormous range of phenomena, including highly personal experiences, can – and should – be perceived and understood within universalistic frameworks. The process involves both ontological elaboration and rationalization. Thus, we expect new study domains to appear in the university, and we expect existing domains to differentiate.

1) Below is one broad indicator of the expansion of university knowledge: the roster of undergraduate degrees offered by Harvard at 1853 and 2000 (table 1). The increase, obviously, is pronounced, moving from 12 to 43. This is true even as some degrees cease to be available at the bachelor's level: comparative anatomy and physiology, law, medicine, and divinity all are hived off to professional schools by 2000. Thus only three degrees (underlined in the table below) are offered at both time points.

There is not only a great proliferation of fields, as above, but also a great proliferation of subject matters within fields. In 1853, for instance, there were only three history courses offered at Harvard University: Outlines of Universal History, History of England, and History of the Origin of Representative Government in Europe. In 2000, by sharp contrast, Harvard offered 229 history courses, including Sex and Empire, Punishment and the Modern World, and Human Rights in Africa: An Historical Perspective. The body of materials available to be rendered in terms of universalistic knowledge – and thus available for university studies – grows enormously.

2) As more and more of the universe becomes conceivable within the university framework – even including the most quotidian tasks – bridges to and from the university and society multiply, yielding a world where everything is knowable and where knowledge is the central organizing principle of society. The bridges come in many forms, including job-placement, public-service, and internship programs. And they increasingly serve as sites for the direct transfer of university knowledge into the everyday functions of society. Concomitantly, older forms distancing the university from practical life do not keep up. For instance, institutes increasingly replace museums at the interface between univer-

sity and society. At Harvard, 12 of the 13 museums now in existence had appeared by 1945. These old-style knowledge cathedrals, celebrating the wonders of the categorically bounded creation, grew outmoded over the twentieth century. On the rise were institutes and centers: 31 of Harvard's 33 institutes and centers appeared after 1945. Similarly at Tokyo, 25 of the 29 institutes and centers now operating had appeared after 1945. They are listed with founding dates in table 2.

Table 1: Proliferation of Degree Offerings

Harvard 1853	**Harvard 2000**	
Astronomy	Astronomy	History and Literature
Chemistry	and Astrophysics	History and Science
Mathematics	Chemistry	History of Art and
General Education	Mathematics	Architecture
Comparat. Anatomy &	Afro-American Studies	Linguistics
Physiology	Anthropology	Literature
Law	Applied Mathematics	Music
Medicine	Biochemical Sciences	Near Eastern Langs. &
Botany	Biology	Civilizations
Zoology and Geology	Chemistry and Physics	Philosophy
Mineralogy	Classics	Physics
Engineering	Computer Science	Psychology
Divinity	Earth and Planetary	Comparative Study of
	Sciences	Religion
	East Asian Studies	Romance Languages and
	Economics	Literatures
	Engineering Sciences	Sanskrit and Indian
	English and American	Studies
	Language & Lit.	Slavic Languages and
	Environ. Science and	Literatures
	Public Policy	Social Studies
	Folklore and Mythology	Sociology
	Germanic Language and	Special Concentrations
	Literature	Statistics
	Government	Visual and
	History	Environmental Studies
		Women's Studies

Table 2: Institutes and Centers at the University of Tokyo

Historiographical Institute	1888
Institute of Medical Science	1916
Earthquake Research Institute	1925
Institute of Oriental Culture	1941
Institute of Social Science	1946
Inst. of Socio-Information and Communication Studies	1949
Institute of Industrial Science	1949
Institute of Molecular and Cellular Biosciences	1953
Institute for Cosmic Ray Research	1953
Institute for Solid State Physics	1957

Ocean Research Institute	1962
Cryogenic Center	1965
Health Service Center	1967
Radioisotope Center	1970
Research Center for Nuclear Science and Technology	1972
Environmental Science Center	1975
Molecular Genetics Research Lab	1983
International Center	1985
Research Center for Advanced Science and Technology	1987
Research into Artifacts, Center for Engineering	1992
Biotechnology Research Center	1993
Asian Natural Environmental Science Center	1995
Center for Research and Dev. of Higher Education	1996
Center for Collaborative Research	1995
Intelligent Modeling Lab	1996
Komaba Open Lab	1998
Center for Spatial Information Science	1998
Research Center for Advanced Economic Engineering	1999
High Temperature Plasma Center	1999

The important point here is a simple one. As bounded nation-state societies unify into a single world society, the supplies of materials available to undergo universalization – including those related to society itself – grow enormously.

C. Change in University Knowledge: Content and Quality

Another main implication of our argument concerns the content and quality of university knowledge. As the societal framework grows increasingly abstract and reconfigures around an expanded human actor, we anticipate not only more but different kinds of university knowledge. Particular and descriptive forms of knowledge, especially those devised in terms of concrete nation-states, should give way to universal and analytical forms of knowledge. And all university knowledge should become increasingly human-centric.

1) One expression of this materializes in a decline of the descriptive natural sciences – in which concrete local phenomena, attached to particular nation-states, are treated as unique instances of more general categories – and a rise of the analytical natural sciences – in which phenomena are abstracted and universalized from the outset. Indeed between 1899 and 2000, the botany, zoology and geology, and mineralogy degree options at Tokyo all disappear. They are subsumed by abstract and encompassing systems sciences, such as earth and planetary sciences. Similar shifts characterize many universities worldwide (Gabler/Frank 2005).

2) By the same token, we observe a decline of the humanities and a rise of the social sciences. The humanities construct and convey the dual nature of Modern society. In studies of Philosophy, Classics, Archaeology, and the Ancient Languages, society's universal origins – in the Ancient Civilizations of Greece and Rome – take precedence, while the disciplines of History, Modern Languages, and Modern Literatures emphasize the distinctive cultures of nation-states. As such boundaries diminish in the post-Modern period, we see a rise in highly abstracted and scientized studies of society, in the social-science fields. For example, there was a drop from 14 to 12 in the percentage of students enrolled in the humanities between 1899 and 2000 at the University of Tokyo, simultaneous with a rise from 0 to 14 in the percentage of students enrolled in the social sciences. The reconstitution of society in global-individual terms generates more scientific and universalistic analyses – a trend that appears not only at Tokyo but quite broadly around the world (Drori/Moon 2005, Frank/Gabler 2006).

3) As university knowledge grows more abstract in content and quality, it also grows more human-centric. This means that knowledge is seen to conform to and emanate from the individual human actor – conceived on generic and individualized bases. A first expression of this is found in the fact that increasingly over the twentieth century, the direct experiences of individual students come to count as knowledge. For instance at Harvard in 2000 the Office of International Programs introduces students to:

"the possibilities of the world 'beyond the college walls.' In particular, we want to help ensure that some type of international experience – whether study, research, or volunteer or paid work – is part of the education of every Harvard student. The experience of living, studying, traveling, and working in another country can provide extraordinary academic and personal rewards. Some Harvard students take time to travel or work overseas, others pursue academic course or field work at foreign institutions, and still others spend their summers studying or completing internships abroad. There are many options that can help you combine cultural immersion, intellectual challenge, and individual growth."
(http://www.fas.harvard.edu/~oip/study_abroad/intro.html)

As personhood itself is universalized and abstracted, the experiences of persons may be configured in terms of university knowledge.

4) As knowledge expands and is increasingly tied to a world society of individual persons, it loses its status as something fixed and external, to which humans must be disciplined. Increasingly knowledge becomes subordinated to the rationalized human project – produced by human ac-

tors and used for human goods. One indicator of this process appears below. In 1853, Harvard's courses were strictly organized by class – freshman, sophomore, junior, senior. Every class in the freshman year had to be passed before any class in the sophomore year could be attempted. By 2000, much looser designations applied – courses were distinguished as undergraduate, undergraduate and graduate, or graduate. And prerequisites – most strikingly in the humanities but also in the natural sciences – declined dramatically (only six percent of Harvard's history courses in 2000 had prerequisites). The rigid internal structure of knowledge – and its distance and independence from society – fell away. Relatedly, exams grew fewer in number and less mandatory. In 1853, all Harvard students were examined (by appointed committees) in all subjects – nearly all of which were the same for every student. In 2000, only some students were examined in some subjects – none of which were the same for every student.

The summary point here is that university knowledge does not just expand with the universalization of society but also changes. Most obviously, society itself becomes a direct object of university inquiry. Also, university knowledge begins to arise from the direct experiences of individual human actors, and to conform to their choices.

D. Change in Students: Expansion and Range

The evolving societal context – more and more global and individualized over time – catalyzes change beyond university knowledge, in the student body. In number and in type, the student body vastly increases over the Modern, and even more so the post-Modern, periods.

1) There is first a sheer expansion in numbers. There were, for example, 2,365 students enrolled at Tokyo in 1899, and 15,855 in 2000. Increases along these lines characterize universities all over the world (Schofer/Meyer 2005).

2) There is second the incorporation of categories of persons formerly barred entry. Harvard did not begin admitting women until 1977. Now, the university flaunts its policy to treat all applicants as abstract equals, regardless of their status characteristics:

"Harvard University makes all decisions concerning applicants, students, faculty, and staff on the basis of the individual's qualifications to contribute to Harvard's educational objectives and institutional needs. Discriminating against individuals on the basis of race, color, sex, sexual orientation, religion, age, national or ethnic origin, political beliefs, veteran status, or disability un-

related to job or course requirements is inconsistent with the purposes of the university and with the law."
(http://www.gsas.harvard.edu/publications/handbook/about.html)

This tendency – to adopt need-blind, race-blind, sex-blind, etc., policies – increasingly appears on a global basis. Thus, persons the world over are re-interpreted to represent capacious understanders and discoverers, and they are admitted to the university accordingly. At the same time, university certifications are to an ever-greater extent recognized on a global basis.

E. Change in Students: Qualities and Properties

The Modern student appeared in the university context as a fairly simple and standardized entity. He (and less commonly she) had a limited set of characteristics relevant to university instruction, and could be fit into a very limited set of knowledge frames. The post-Modern student is a much richer and more variable sort of legitimate entry into the university's organizational table, with many relevant properties.

1) The students are now individuals. The Modern student was subject to all sorts of standardizing pressures – both academic (e.g., required exercises in Declamation, Themes, Forensics, Elocution, Greek, and Latin at Harvard in 1853) and non-academic (at which time festive entertainment, riotous noise, and improper table conduct were reported to the President). Most such obligations disappear with the rise of individual personhood in the post-Modern period. Thus Tokyo's 1899 requirement that "whether in the College or outside, students must wear the University uniform" (p. 118) vanished by the year 2000, and so did the practice of immersing students in class-based corporate entities:

"1. Each course in the different Colleges, or each class, or, when convenient, the two combined, shall constitute different groups, called Bu […]. 2. The members of each Bu shall elect one of their number by vote, and the said member, with the approval of the President, shall be appointed headman of the Bu, or Bukan. He shall be responsible for the preservation of order in the group, and shall also generally represent it […]. 5. The Bukanship is an honorary office and cannot be declined for private reasons or individual convenience […]." (p. 215-216)

From the reconstitution of "society" in the post-Modern period came a reconstitution of persons, on increasingly individuated terms.

2) The student has rights equal to those of others. Students are not only individuated over recent decades but they are accorded great cul-

tural standing, commanding the respect of others and owing it in return. Organizational rules follow in kind. For instance, students and faculty at:

"Tokyo should strive to give maximum consideration to basic human rights, including academic freedom, the freedom of thought and conscience, and the freedom of expression, while making use of computers and networks in their work. They should also respect rights to privacy, personal information, copyrights, and rights to intellectual property."
(http://www.cie.u-tokyo.ac.jp/RulesPertain.html)

At the root of human-rights imageries lies the principle of equality. Ultimately, the humanity of every student is equal to the humanity of every other. At Tokyo, this means that rank orders collapse over time. No longer is it the case that "the President shall be of chokunin rank, the 91 professors shall be of chokunin or sōnin rank […] and the 42 assistant professors shall be of sōnin rank" as it was in 1899 (pp. 19-20). At Harvard, this same process means that all students are elevated to honorable status. For example among history majors in 2000, 82 out of 89 students graduated with honors; 16 out of 16 comparative-religion students took honors; 184 out of 219 economics majors took honors; and in chemistry, 33 out of 34 graduated with honors. With the onset of post-Modernity, students increasingly come to bear inviolable human rights and fundamental equalities. Their entitivity expands greatly in the post-World War II period.

3) The students are actors. Along with expanded entitivity comes expanded actorhood. Much more than the "citizens" of previous generations, the "individuals" of the present have sovereignty – capacities to shape the world in order to achieve desired ends. In part, expanded actorhood means greater participation in the classroom. Thus, at Tokyo in 2000, instruction in engineering included, "exercises, drawing, laboratory work, [and] field work" (p. 152), while instruction in economics required "small-sized seminar classes which give students an opportunity to perform research" (p. 242). Beyond the classroom, expanded actorhood involves a broadened range of educational choices. In the Harvard of 1853, there was no choice of major: every student followed the same classical course. Within that single course, there were no electives in the first two years of study; upperclassmen were granted some choice in mathematics and languages. By contrast at Tokyo in 2000, students could choose between 86 different majors and could furthermore choose about 40 percent of the courses within each major (e.g., the minimum units required for a Japanese-history degree were 84, with 38 electives). The sovereignty of the student actor is sharply etched in the forms of in-

dependent studies and independent majors. At Harvard, for example, the "option of petitioning for a Special Concentration was established by the Faculty in 1971 for the serious student whose academic interests cross departmental lines. Special Concentrations offers a student the opportunity to design his or her own program of concentration with the advice and consent of the various members of the faculty and administration. With this option the Faculty addressed special educational objectives not accommodated by existing concentrations" (p. 288). The legitimacy and authority of the student actor is so great that failing a class becomes an increasingly remote possibility over time. Students at Harvard in 2000 were able to drop courses up to the halfway point in the quarter. The general trend is striking. In almost every area of academic life, students gain enormous instrumentality.

4) The students have bodies and selves. Alongside the new instrumental capacities of students came new expressive capacities. Throughout the Modern period, the life of the mind was the university's exclusive concern. With the emergence of post-Modernity and the global individual, the whole person surfaces on the university's radar. Along *a first dimension*, students were discovered to have bodies that required tending. Thus, for example, Tokyo established a student health center in 1967, and thus between 1853 and 2000, Harvard added 36 team sports to accompany the only one available in 1853 – crew. Along *a second dimension*, students were discovered to have interior selves, with widely varying characteristics and features. To encompass these student selves, the extra-curricular life of universities expanded wildly. By the year 2000, Harvard had 287 officially recognized organizations. From the very beginning of the alphabet, these included: Advocate, African Students Association, AIDS Education and Outreach, Alliance for Social Justice, Amnesty International, Anime Society, Anthropology Club, Appleton Club, Applied Christian Faith, Architecture Club, Arnold Cultural Society, Arts and Cultural Exchange, Asia Pacific Review, Asian American Association, Asian American Brotherhood, Asian American Christian Fellowship, Asian American Dance Troupe, Asian Baptist Student Koinonia, Association for Cultivating Inter-American Democracy, Association of Black Harvard Women, and Athena. The variety is impressive. In both flesh and spirit, then, the post-Modern student is much more fully realized in the university than the Modern student. The whole person, now, is encompassed.

V. Discussion and Conclusion

For two centuries, Modernity has been defined in terms of differentiation, specialization, and complexity, and university education has been discussed in terms of its functional purposes. By rights, the university should not survive in such a world, but indeed it does, and aggressively. We make sense of the outcome by rethinking Modernity in terms of universalization – the claim that the universe can be understood, and to some extent manipulated, by regular persons in general terms (universalism), the features and capacities of which can be specified and delineated (ontological elaboration), and causally interconnected (rationalization). The university embodies this premise – a generalizing one with religious overtones – as it constitutes the world around institutionalized models. This alternative perspective accounts well for empirical outcomes, especially after WWII, with the emergence of world society and the celebrated human individual. It accounts for the extraordinary expansion of the university, in terms of numbers, enrollments, substantive topics, and organizational complexity. It accounts for the spread of the university to the most functionally unlikely places in the world, and for rapid growth in such places. And it accounts for the extraordinary standardization of university forms – enrollment patterns, curricular agendas, and even organizational structures – across an extremely diverse set of societies worldwide.

Accordingly to an increasing extent, university pedagogy empowers rather than disciplines, encouraging participation rather than imitation, and choice rather than ritual standardization. Under the new conditions, the university is elaborately linked to society, with society entering in and the university extending outward. All sorts of social and technical activities come under the governmentalizing discipline of universal knowledge. Little in the social and physical world is left outside the possibility of university research and instruction. One can study, for academic credit, grains of sand, the origins of the universe, the intelligence of birds, or the search for Intelligence at the center of the galaxy. And the whole process has global resonance. Change may occur in the old and formerly recalcitrant European core even more rapidly than in the periphery, supported by the elaborate discourse around the "Bologna Process." The result of all these changes is the rise of orderly and predictable imagined world, in which empowered knowers command abstract knowledge through managed experience.

References

Aronowitz, S. (2000): *The Knowledge Factory: Dismantling the Corporate University and Creating True Higher Learning*, Boston: Beacon Press.

Berg, I.E. (1970): *Education and Jobs: The Great Training Robbery*, New York: Praeger Publishers.

Berger, P./Luckmann, T. (1967): *The Social Construction of Reality*, Garden City: Anchor Press.

Bloom, A. (1987): *The Closing of the American Mind*, New York: Simon and Schuster.

Boli, J. (2005): Contemporary Developments in World Culture, *International Journal of Comparative Sociology* 46, 383-404.

Bradley, K./Ramirez, F.O. (1996): World Polity and Gender Parity: Women's Share of Higher Education, 1965-1985, *Research in Sociology of Education and Socialization*, 11, 63-91.

Brint, S. (2002): The Rise of the Practical Arts. In: S. Brint (ed.), *The Future of the City of Intellect*, Stanford: Stanford University, 231-259.

Chabbott, C./Ramirez, F.O. (2000): Development and Education. In: M.T. Hallinan (ed.), *Handbook of the Sociology of Education*, New York: Plenum, 163-87.

CIA (2005): CIA World Factbook. http://www.cia.gov/cia/publications/factbook/geos/by.html (accessed 12 October 2006).

Collins, R. (1971): Functional and Conflict Theories of Educational Stratification, *American Sociological Review*, 36, 1002-1019.

Drori, G./Meyer, J.W./Hwang, H. (eds.) (2006): *Globalization and Organization*, Oxford: Oxford University Press.

Drori, G./Moon, H. (2005): The Changing Nature of Tertiary Education: Cross-National Trends in Disciplinary Enrollment, 1965-1995. In: D.P. Baker/A.W. Wiseman (eds.), *The Impact of Comparative Education Research on Institutional Theory*, Oxford: Elsevier Science.

Etzkowitz, H./Kemelgod, C./Uzzi, B. (2000): *Athena Unbound: The Advancement of Women in Science and Technology*, Cambridge: Cambridge University Press.

Feagin, J.R./Vera, H./Imani, N. (1996): *The Agony of Education: Black Students at White Colleges and Universities*, New York: Routledge.

Frank, D.J./Gabler, J. (2006): *Reconstructing the University: Worldwide Changes in Academia in the 20th Century*, Stanford: Stanford University Press.

Frank, D.J./Hironaka, A./Schofer, E. (2000): The Nation-State and the Natural Environment over the Twentieth Century, *American Sociological Review*, 65, 96-116.

Gabler, J./Frank, D.J. (2005): The Natural Sciences in the University: Change and Variation over the 20th Century, *Sociology of Education*, 78, 83-206.

Geiger, R. (2004): *Knowledge and Money: Research Universities and the Paradox of the Marketplace*, Stanford: Stanford University Press.

Gumport, P./Snydman, S. (2002): The Formal Organization of Knowledge, *Journal of Higher Education*, 75, 375-408.

Hasse, R./Krücken, G. (2005): *Neo-Institutionalismus. Revised Edition*, Bielefeld: transcript Verlag.

Hofstadter, R. (1963): *Anti-Intellectualism in American Life,* New York: Knopf.

Jepperson, R.L. (2002): The Development and Application of Sociological Neoinstitutionalism. In: J. Berger/M. Zelditch/J. Lanham (eds.), *New Directions in Contemporary Sociological Theory*, Rowman & Littlefield, 229-266.

Karabel, J. (2005): *The Chosen: The Hidden History of Exclusion and Admission at Harvard, Yale, and Princeton*, Boston: Houghton Mifflin.

Kirp, D.L. (2003): *Shakespeare, Einstein, and the Bottom Line: The Marketing of Higher Education*, Cambridge: Harvard University Press.

Klein, J.T./Grossenbacher-Mansuy, W./Häberli, R./Bill, A./Scholz, R.W./Welti, M. (eds.) (2004): *Transdisciplinarity: Joint Problem Solving among Science, Technology, and Society – An Effective Way for Managing Complexity*, Basel: Birkhäuser

Kors, A./Silvergate, H. (1998): *The Shadow University: The Betrayal of Liberty on America's Campuses*, New York: Free Press.

Krücken, G./Meier, F. (2006): Turning the University into an Organizational Actor. In: G. Drori/J.W. Meyer/H. Hwang (eds.), *Globalization and Organization*: *World Society and Organizational Change,* Oxford: Oxford University Press, 241-257.

Meyer, J.W. (1977): The Effects of Education as an Institution, *American Journal of Sociology,* 83, 55-77.

Meyer, J.W./Boli, J./Thomas, G./Ramirez, F.O. (1997): World Society and the Nation-State, *American Journal of Sociology,* 103, 144-81.

Meyer, J.W./Ramirez, F.O./Frank, D.J./Schofer, E. (2006): Higher Education as an Institution. In: P. Gumport (ed.), *Sociology of Higher Education*, Baltimore: Johns Hopkins Press, in Press.

Meyer, J.W./Jepperson, R.L. (2000): The 'Actors' of Modern Society: The Cultural Construction of Social Agency, *Sociological Theory,* 18, 100-20.

Meyer, J.W./Schofer, E. (2006): The University in Europe and the World: Twentieth Century Expansion. In: G. Krücken/A. Kosmützky/M. Torka (eds.), *Towards a Multiversity? Universities between Global Trends and National Traditions*, Bielefeld: transcript, in this volume.

Nussbaum, M.C. (1997): *Cultivating Humanity: A Classical Defense of Reform in Liberal Education*, Cambridge: Harvard University Press.

Ramirez, F.O. (2006): The Rationalization of Universities. In: M.-L. Djelic/K. Salin-Andersson (eds.), *Transnational Governance: Institutional Dynamics of Regulation*, Cambridge: Cambridge University Press.

Ramirez, F.O./Soysal, Y./Shanahan, S. (1998): The Changing Logic of Political Citizenship: Cross-National Acquisition of Women's Suffrage, *American Sociological Review*, 62, 735-45.

Ramirez, F.O./Wotipka, C.M. (2001): Slowly but Surely? The Global Expansion of Women's Participation in Science and Engineering Fields of Study, 1972-1992, *Sociology of Education,* 74, 231-51.

Readings, B. (1996): *The University in Ruins*, Cambridge: Harvard University Press.

Riddle, P. (1990): *University and State: Political Competition and the Rise of Universities, 1200-1985*, Ph.D. Dissertation, School of Education, Stanford University.

Riddle, P. (1993): Political Authority and University Formation in Europe, 1200-1800, *Sociological Perspectives,* 36, 45-62.

Rojstaczer, S. (1999): *Gone for Good: Tales of University Life after the Golden Age*, New York: Oxford University Press.

Rubinson, R./Brown, I. (1994): Education and the Economy. In: N. Smelser/R. Swedberg (eds.), *The Handbook of Economic Sociology*, Princeton: Princeton University Press, 583-99.

Schofer, E. (1999): The Rationalization of Science and the Scientization of Society: International Science Organizations, 1870-1995. In: J. Boli/G.M. Thomas (eds.), *Constructing World Culture*, Stanford: Stanford University Press.

Schofer, E./Meyer, J.W. (2005): The World-Wide Expansion of Higher Education in the Twentieth Century, *American Sociological Review,* 70, 898-920.

Schofer, E./Ramirez, F.O./Meyer, J.W. (2000): The Effects of Science on National Economic Development, 1970-1990, *American Sociological Review*, 65, 877-98.

Slaughter, S./Leslie, L. (1997): *Academic Capitalism: Politics, Policies and the Entrepreneurial University,* Baltimore: Johns Hopkins Press.

Strang, D. (1990): From Dependence to Sovereignty, *American Sociological Review*, 55, 846-60.

Teferra, D./Altbach, P. (2003): *African Higher Education: An International Reference Handbook*, Bloomington: Indiana University Press.

Thomas, G.M./Meyer, J.W./Ramirez, F.O./Boli, J. (1987): *Institutional Structure: Constituting State, Society, and Individual*, Newbury Park: Sage.

UNESCO (2005): Education Trends in Perspective – Analysis of the World Education Indicators, UNESCO.

Washburn, J. (2005): *University, Inc.: The Corporate Corruption of American Higher Education*, New York: Basic Books.

Windolf, P. (1997): *Expansion and Structural Change: Higher Education in Germany, the United States, and Japan*, Boulder: Westview Press.

World Bank (2000): *Higher Education in Developing Countries: Peril and Promise,* Published for the Task Force on Higher Education and Society, Washington: World Bank.