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# Towards a Multiversity?

Universities between  
Global Trends and  
National Traditions

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# **Towards a Multiversity? Universities between Global Trends and National Traditions**

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GEORG KRÜCKEN/ANNA KOSMÜTZKY/MARC TORKA

Universities are currently undergoing profound changes, and this on a worldwide scale. In order to delineate the common characteristics of the heterogeneous, at times even contradictory transformations, a variety of labels are in circulation, from “the post-modern university” (Smith/Webster 1997) to “the enterprise university” (Marginson/Considine 2000). The former term, however, is too broad, while the latter term is too narrow to grasp the many-sided changes taking place in universities. Therefore, we have chosen to use the term “multiversity”, which was originally coined in 1963. In a groundbreaking contribution to a more general understanding of universities, the former president of the University of California (UC), Clark Kerr, developed this concept.<sup>1</sup> Seeking to describe the reality of his university, which was marked by strong internal differentiation and heterogeneity, Kerr argued that its outstanding feature was its diversity. In this way, in the second half of the 20<sup>th</sup> century, the “multiversity” came to challenge the “idea of the university” as classically developed by Wilhelm von Humboldt and Cardinal Newman in the 19<sup>th</sup> century.

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1 As provost of the UC Berkeley between 1952 and 1958 and president of the entire UC system between 1958 and 1967, Kerr was also a pioneer with regard to the implementation of a management approach towards his university (see Soo/Carson 2004). In doing so, he was well aware of the organizational and institutional specificities of research universities, which differ markedly from the context of a business corporation. Currently, one can witness a global trend towards universities as managed organizations (see Musselin, this volume; Krücken/Meier 2006). For this debate, Kerr’s early insights are still of great importance.



While Kerr's insights were limited to the regional and national embeddedness of the American research university, we assume that there is a worldwide trend towards the multiversity being shaped by globalizing trends in higher education that are transforming national systems and individual university organizations alike. At first sight, the parallel with Kerr may seem odd. After all, the global embeddedness of universities could be seen as leading towards standardization instead of pluralization. However, transnational trends and role models do not diffuse in a vacuum. Instead, they take place in specific national and organizational settings. This process of locally adapting transnational trends – aptly labeled “glocalization” by Robertson 1995 – leads to creative deviations and incomplete adaptations. From this perspective, the “either/or” choice in traditional research on diffusion processes – the idea that innovations coming from outside are either adopted or not – is not a viable model in our case. Universities are best understood as historical, time-dependent systems that are strongly embedded in their own national and organizational histories. The “new multiversity” emerges because universities all over the world devise diverse solutions in the face of global trends that may appear standard, but that are never standardized in their effects, as they are adapted, incorporated or resisted by universities that are ultimately rooted in particular times and places.

In our book we seek to outline the contours of the “new multiversity” in three parts: first, by setting forth some theoretical approaches for understanding the contemporary university, its trajectories and main characteristics; second, by emphasizing the role state regulation and new forms of governance play in the current transformation process; and third, by examining university-industry relations, particularly the idea that the university is being partially commodified through more intensive ties with industry.

## **Part I: Universities in Modern Society. Towards a General Understanding**

The papers in the first part focus on building a more general understanding of the role and specificity of universities in modern society. The bird's eye view taken by these papers differs strongly from our day-to-day experiences in academia, and in this, the papers are highly important contributions to a broader theoretical understanding of academia. Currently, both professors and students typically experience competitive pressures as a series of increasing, usually disagreeable personal pressures, for example, work overload and a shortage of resources. Insofar as

they emphasize increasingly difficult work and study conditions, such personal and short-term observations tend to be interpreted as implying that the university is in difficulty, even in a crisis. Yet, the theoretical contributions in this section remind us that the university is anything but a failure, particularly when compared with other institutions. Arguably, universities are more than ever central institutions of modern society. Historically, they have out-competed other formats of post-secondary education, and they tend to shape more and more occupations and careers. But why is this so? And does the university provide a distinctive organizational format within which teaching and research can evolve?

The chapters by *David Frank* and *John Meyer* and *John Meyer* and *Evan Schofer* offer a macro-sociological approach to explaining why the university institution, despite all its shortcomings and the frequent criticisms directed at it, is a long-term success story. The main point in the chapter by *Frank* and *Meyer* is that the university is a cultural model that enables the transformation of local into universal knowledge. In contrast to what is often assumed, the worldwide expansion of higher education and related transformations in universities are not a result of the need for specialized, highly skilled labor in an ever more differentiated society. Instead, global norms of universalism and empowered individualism are the driving-forces behind the historically unprecedented expansion of universities, especially rising university enrolment. Using comparative qualitative data, in particular, the course catalogues of Harvard University and the University of Tokyo from the 19<sup>th</sup> century until 2000, *Frank* and *Meyer* illustrate that an ever-growing number of subjects can be studied by an increasingly large university student body. Students, understood as empowered individuals, are seen as active participants in the study of the social and physical world. Moreover, as society increasingly focuses on the potential and worth of every individual, the expansion of the university student body is both concomitant with and an expression of universalizing norms fostering the basic human right to have access to higher education.

The subsequent chapter by *Meyer* and *Schofer* follows up on this argument by providing statistical evidence for the global expansion of universities. The authors first present data on the dramatic world-wide increase in higher education enrolment, especially since the 1960s. As this increase is not limited to specific continents or countries but is a phenomenon taking place on a global scale, the standard explanation that links this trend to the socio-economic demands of a knowledge society falls short. In particular, developing countries have experienced unprecedented growth in the numbers of universities as well as in the numbers of students attending them to the same extent as the economi-

cally developed ones have. Thus, the authors maintain that the expansion of higher education is embedded in a global, standardized model of the state. Educational systems are seen as playing a special role in fostering national development, as well as the related goals of economic growth and progress. The perceived societal benefits of higher education have acquired a myth-like quality. This has particular implications for European universities and state policies, of which the traditions of controlled and constrained access to tertiary education have increasingly come under pressure.

Both chapters provide explanations and evidence concerning the status of the university as a central societal institution. But, as the subsequent chapter in this section by *Christine Musselin* goes on to argue, universities are not only institutions which are granted legitimacy and resources from their social environments. Universities are also organizations with structures and processes that historically differ markedly from those of other organizations. While in many organizational analyses state bureaucracies and business firms were depicted as integrated and tightly coupled systems, universities were typically described as loosely coupled systems. This organizational specificity has increasingly come under pressure as universities are more often seen as “normal organizations” to which organizational solutions from other organizational contexts, especially business, and general concepts like New Public Management may be applied. Though these efforts may be fruitful at times, according to *Musselin*, universities are still specific organizations. This is due to the characteristics of their core tasks – research and teaching – which are inherently uncertain activities, and which can hardly be standardized. As the tasks in other organizations move towards a less predictable and clear-cut structure universities may serve as a model for other organizational contexts, though currently the university is mainly seen at the receiving end of the transfer of organizational concepts.

## **Part II: The Governance of Universities. Between State Regulations and Transnational Policy-Making**

The second part of our book addresses the changing relationship between national and transnational policy-making in the field of higher education. Clearly demarcated national styles and systems, which have historically strongly shaped this field, are increasingly being put under pressure from a variety of sources. These sources include: the Bologna process in Europe, formally charged with the harmonization of European

higher education systems; mutual observation and imitation processes among universities and policy-makers world wide, fostering the spread of formally if not always substantively similar institutional forms seen as successful; transnational organizations like the OECD and the World Bank, whose recommendations shape national economic and educational programs and priorities; the emergence of new actors like transnational accreditation and evaluation agencies, that legitimize certain national university forms and practices and delegitimize others. Universities are increasingly subject to transnational trends and pressures, both formal and informal, from a variety of actors.

Yet, although it is clear that universities are increasingly subject to transnational pressures, it is just as obvious that this is not the whole story. The common formula of the “retreat of the state” (Strange 1996) fails to grasp the complexity of the different levels of policy-making and their interactions. The ever-growing importance of transnational trends and agencies can only be fully understood against the backdrop of specific national systems that persist and continue to matter. In other words, there are clear limits to convergence. In addition, higher education governance rarely approximates a simple zero sum game structure, where gains on one side equal losses on the other. Transnational higher education forms and practices do not simply expand at the expense of national systems. Instead, one can witness a dialectics unfolding, in which an increase in transnational agenda-setting and rule-making often reinforces national characteristics and policy-making. Thus, at the same time that national policy-makers feel obliged to react to perceived shortcomings made visible by international comparisons, transnational actors typically address the nation-state as the legitimate actor in higher education reform. Paradoxically, the discourse and actions of transnational actors may reinforce the claims of the state to be the only agent capable of – and legitimately responsible for – reforming university systems that are still conceived of largely, if not exclusively, in national terms. The four chapters in this section of the book all deal with the complex regulative structures in higher education, in which national and transnational policy-making levels as well as governmental and non-governmental actors increasingly interact, and in doing so, shape the future of the field.

According to the chapter by *Henno Theisens* and *Jürgen Enders*, transnational trends in higher education are not only shaped by different political systems, but also by the distinct configuration of policy networks in each country. These policy networks differ with regard to the specific policy field. Therefore, in order to explain national policy changes in the field of higher education, both levels have to be taken into account. The authors demonstrate the analytical value of their

framework by discussing policy changes in England and the Netherlands concerning funding policies, quality systems, the regulation of new study programs, and policies to stimulate university-industry relations. Though the overall direction of the changes in these areas, which started in the early 1980s, is rather similar, the pace of change and the impact on national systems differ strongly. In a majoritarian political system like England one can witness rapid policy changes, while in a consensus-oriented system like the Netherlands slow, but steady changes are more typical.

*Pepka Boyadijeva* presents Bulgaria as a highly interesting case for the analysis of the interplay between transnational and national forces. As a post-communist country, higher education in Bulgaria is undergoing much more drastic transformations than in any Western country. Though *Boyadijeva's* intellectual starting-point is the “new institutionalism” in organizational analysis and its emphasis on isomorphic tendencies, her empirical focus on the national and organizational uptake of transnational role models and formal structures show strong heterogeneity. These cases include the shift from specialized schools to a more comprehensive university model, the establishment of a private higher education sector, and Europeanization efforts like the introduction of Bachelor/Master programs and degrees, and the establishment of a formal quality assurance system. Due to national and organizational path-dependencies, which have to be carefully analyzed, however, these transformations only appear to be homogenizing at first glance. According to *Boyadijeva*, even in a country which is so open to external influences, like Bulgaria, do historical trajectories and related institutions, both formal and informal, prevail.

*Barbara Kehm* follows up on the discussion of transnational trends and national traditions by examining the shifting contexts and contents of doctoral education in Europe. In addition, she also refers to recent developments in the United States. For national policy-makers in many European countries, the Bologna process offers the framework for redirecting the way doctoral education is pursued. Instead of the traditional master-apprentice-model geared towards the reproduction of academic disciplines and the related teaching and research staff, closer links between academia and society are being sought. This common trend in the twelve European countries observed first implies a stronger formal structuration through the setting up of graduate schools and programs, including a clearer definition of the rights and responsibilities of students, professors and universities. Secondly, a broader agenda is being strived for within these programs which is no longer exclusively directed at the pursuit of disinterested and purely disciplinary research, but which

encompasses interdisciplinary exchange and the acquisition of managerial skills as well as an openness towards other societal sectors, especially industry. As *Kehm* points out, however, these two general trends are not leading to homogeneity, as a huge variety both between and within different countries can be observed.

In the final chapter of this part *Tina Hedmo, Kerstin Sahlin-Andersson* and *Linda Wedlin* discuss a phenomenon which goes beyond the strong national traditions pointed out in the previous three chapters: the emergence of a global and thoroughly post-national organizational field, in which the subject under scrutiny – management education – is structured and regulated. The structuration and regulation of the field is being pushed forward by transnational rankings and accreditation systems, which exert strong pressure on it to conform. In the field of management education, business schools follow global trendsetters and try to act accordingly in order to be recognized as legitimate actors in the field. A core component of this externally granted legitimacy lies in providing an MBA program. Additional aspects of an educational field, which is shaped by rankings and accreditations instead of state regulations, are the importance of media attention and professional organizations, and the strong stratification of the field, in which a well-defined “top league” serves as a role model and benchmark for others. In the end, the authors discuss whether management education displays characteristics which make it a rather unique case or whether it is a forerunner for the overall future development of universities.

### **Part III: University-Industry Relations. Historical Legacies and New Forms**

Closer interactions between universities and industry seem to be an observable pattern in very different university systems. As universities are more often seen as part of an overall national innovation system, numerous theoretical, empirical and normative questions are emerging concerning the status of universities as relevant sites of knowledge-production and also concerning the kind of knowledge that universities can and should produce. The intense scholarly and political debates on the subject are unlikely to produce any definitive answers. Yet, at the descriptive level, there is a broad consensus that there is an increase in the organizational and institutional shaping of the interactions between the university and industry. Historically, there is a long, if nationally and institutionally variable, tradition of personal contacts between university professors and industrial firms. But, the worldwide trend towards: a) dis-

tinctive political agendas and programs encouraging greater interaction between university and industry; b) the establishment of differentiated and specialized organizational structures designed to bridge the gap between universities and industry; and c) the active, self-conscious involvement of the university as a whole in establishing institutional relations with industry, seem to be of more recent origins. Currently, and in very different national systems, university-industry ties are becoming increasingly close. Moreover, such ties are being made explicit, as universities seek to formalize and rationalize their interactions with industry. Ultimately, however, the formalization and rationalization of university-industry ties is reaching its limits. Cooperation relies on personal ties, and cooperation partners are carriers of implicit knowledge that can hardly be codified. The following chapters give examples of historical traditions and recent trends in interactions between universities and industry.

*Kenneth Bertrams* puts the current debate on university-industry relations into a broader historical context. Against this backdrop, one can see that both in European countries and the United States collaborations between university professors and industry can be traced back to the late 19<sup>th</sup> and early 20<sup>th</sup> century. Most of these cooperations were triggered by entrepreneurial academic scientists and came into being with both the advent of the modern research university and the institutionalization of research in industry. There was, however, no continuous growth of university-industry relations during the period between 1945 and the 1980s, which was characterized by strong research funding for universities by the state. The contemporary promotion of direct links between universities and industry, therefore, is neither entirely new nor does it simply draw on historically entrenched formats as we can witness stronger organizational linkages, which are not limited to the initiative of entrepreneurial scientists.

*Frank Meier* and *Andre Müller* follow up on the comparative historical perspective taken by *Bertrams* by analyzing discourses on science and technology transfer in Germany and the United States from the 1950s to the present. Though the development took place in national contexts, which diverge strongly with regard to their historical legacies, surprisingly similar models of technology transfer could be detected. From the early emphasis on information and documentation to the more recent network model of technology transfer, in which the boundaries between academia and industry are becoming blurred, the trajectories of the discourse follow rather similar patterns. The general development analyzed by *Meier* and *Müller* is not interpreted as a linear model of scientific progress. Instead, the discursive shifts are discussed within the

broader framework of societal rationalization, which provides meaning and common belief structures for highly uncertain processes.

*Rachel Levy* discusses the role of Ph.D. students in the transmission of knowledge between academia and industry by presenting some survey data on public-private partnerships in French Ph.D. education. Since the early 1980s doctoral students have had the opportunity to conduct their Ph.D. research, with financial support from the state, partly in public research institutes and partly in firms. The formal frame within which these activities take place is known as *Cifre*, which stands for *Convention industrielle de formation par la recherche*. Traditionally, *Cifre* Ph.Ds were nearly exclusively in the natural sciences, but more recently Ph.D. students in the social sciences and humanities have also become involved in the *Cifre* system. *Levy* focuses on the latter, which is of particular interest as these disciplines are usually seen as the losers of the current university developments, in which linkages to industry are more and more a prerequisite for both public and private research funding. Following her research, *Cifre* Ph.D. students are an important means of strengthening already existing ties between research institutes and firms. They are of particular importance with regard to the mutual adaptation of work methods in both sectors, and are effectively facilitating the access of young researchers to the non-academic labor market.

The chapter by *Elaine Coburn* provides a macrosociological account of the current emphasis on the direct transfer of knowledge and technology between universities and industry, which is analyzed in the two preceding chapters. Based on the content analysis of a report commissioned by the Canadian government, in which policies for promoting the commercialization of university research are outlined, *Coburn* applies both insights from a political economy approach and the neo-institutional world polity approach as developed by *John Meyer* and his colleagues (see chapters 1 and 2 of this volume). While from a political economy, “neo-Marxist” perspective, the strive for commercialization has to be seen within the context of a broader, neo-liberal transformation of society, an institutional, “neo-Weberian” interpretation of one and the same document stresses the underlying rationalization processes. *Coburn’s* analysis shows the strengths of both approaches in coming to terms with a single case, but warns that these strengths are at the same time problematic as they might too easily construct evidence for macrosociological claims which do not take alternative explanations into consideration.

Following the eleven analyses presented, it becomes clear that universities have to be seen as being both shaped by global trends and national traditions. As a consequence of global and heterogeneous challenges,



neither a consistent philosophy nor consistent practices seem to be in sight. As the chapters in our volume show, the “multiversity” is a thriving and rapidly adapting institution. Kerr’s appraisal of his university – “Inconsistent internally as an institution, it is consistently productive” (Kerr 1963: 45) – is therefore also an appropriate conclusion to the analyses presented here. Following an organizational perspective, it is not surprising that the university can deal with and even integrate a variety of heterogeneous, and at times even conflicting, demands and purposes (i.e., science, education, politics, economy). But we need more empirical research on the effects such multiple orientations of a “multiversity” have on the core professional activities (research and teaching) themselves.

This volume would not have been possible without the generous support of the Institute for Science and Technology Studies and its Graduate Program “Entering the Knowledge Society”, both at Bielefeld University in Germany. We would like to thank them and also Christian Castor, former Coordinator of the Graduate Program, for the support they have given us. Some of our authors preferred British English, some US American. As citizens of a global society with many voices, we have deliberately left the choice to them.

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**Part I:**  
**Universities in Modern Society.**  
**Towards a General Understanding**



## Worldwide Expansion and Change in the University\*

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DAVID JOHN FRANK/JOHN W. MEYER

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

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\* 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 socioeconomic 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, Robinson/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 over-time 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	
<u>Astronomy</u>	<u>Astronomy</u>	History and Literature
<u>Chemistry</u>	<u>and Astrophysics</u>	History and Science
<u>Mathematics</u>	<u>Chemistry</u>	History of Art and
General Education	<u>Mathematics</u>	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](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 entitvity expands greatly in the post-World War II period.

3) The students are actors. Along with expanded entitvity 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.

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## **The University in Europe and the World: Twentieth Century Expansion\***

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JOHN W. MEYER/EVAN SCHOFER

In this essay, we review empirical data on the twentieth century growth of higher education around the world. Several observations are striking and clear. First, there was extraordinary expansion. Higher education became organized on a much larger scale. Second, this expansion was concentrated in the period after about 1960. Third, the expansion was world-wide, characterizing every sort of country. Growth rates in all types of countries tended to be rather similar. The expansion in Europe, characterized by long traditions of controlled and constrained growth, has been especially noteworthy. The European expansion is striking because it is associated with a dramatic supra-national “Bologna Process” forcefully driving organizational change that in other world regions occurs with less disciplined planning, pressure, and purpose.

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\* Equal authors. This essay is a revision of a paper published in the journal *Die Hochschule*, Institute for Higher Educational Research, Halle-Wittenberg (Meyer and Schofer 2005). Another revision will appear in an edition, edited by Miguel Pereyra, of the *Revista Española de Educación Comparada*, in 2006. The paper reflects analyses developed in Schofer/Meyer (2005), Drori et al. (2003) and Meyer/Ramirez (2000). The essay was prepared while John Meyer served as Christian Wolff Visiting Professor at the University of Halle. Work on the paper was supported by a Spencer Foundation Postdoctoral Fellowship (to Evan Schofer), and by grants (to Francisco Ramirez and John Meyer) from the Spencer Foundation and from the Bechtel Center of the Stanford Institute for International Studies. Valuable comments were provided by David Frank, Gero Lenhardt, and Marion Fourcade-Gourinchas, and by Francisco Ramirez, Gili Drori, and other members of Stanford’s Comparative Workshop. Comments by participants in seminars at Stanford, and the Universities of Bielefeld, Halle-Wittenberg, and Minnesota were also most useful.

The overall pattern of observations poses an explanatory puzzle. Most explanations of higher educational expansion, such as those emphasizing socio-economic demands or needs, focus on national-level factors. They obviously will not serve well to account for endemic worldwide growth. This essay, which reflects sociological institutionalist theories, focuses on global changes and shifting cultural models to provide an account of the dramatic world-wide expansion of higher education (Meyer et al. 1997, Drori et al. 2003).

## Background

Higher education is a worldwide phenomenon. But research on higher education tends to focus on case studies of particular institutions or national systems. When it moves in a more comparative direction, as in the well-known work of Burton Clark (e.g., 1983), it tends to focus on arrangements in a fairly circumscribed world – mainly the wealthy, industrialized nations. These qualities are also characteristic of research on the specialized topic of higher educational expansion. Country case studies are the focus of attention. The impressive effort of Paul Windolf goes beyond that (1997), but the cases he compares – Germany, France, the United States, Italy, and Japan – are among the most developed countries.

Case study research is known for its ability to trace causal effects and their pathways in considerable detail. But it suffers from its virtues, in that this literature has a pronounced tendency to attribute causal significance to particular and distinctive features of the case under examination. After all, a student who spent two years on a case and reported that there is little significant about it, and that its history parallels that of all the other cases, would be unlikely to receive a degree, let alone substantial academic attention. Thus the research literature on higher educational expansion tends to emphasize characteristics of particular countries or types of countries as lying behind rapid growth in the contemporary period. In the United States, for instance, it is common to discuss post-war expansion as resulting from political changes embedded in the “G.I. Bill” – legislation that facilitated higher educational access for returning veterans after World War II. In Britain, and Continental countries, interpretations can stress the post-war breakdown of the constraints supported by the old class systems, the demands of a “new economy,” or the weakening of the capacity of the state to maintain controls (Ben-David/Zloczower 1962). In some such interpretations, especially in the early post-war decades, the breakdown involved was thought to support

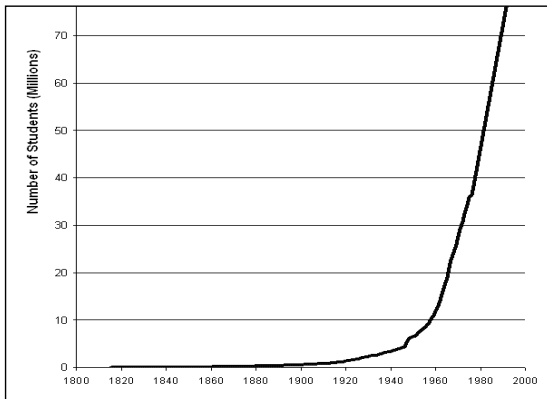
potentially destructive over-education, credential inflation, and rampant status competition (e.g., Collins 1979, Dore 1975, Fuller/Rubinson 1992 for a late reflection).

That sort of unease about higher educational expansion has greatly receded both in the policy world and in academic theory. One can now observe little concern about the dangers and costs of over-education (but see Lenhardt (2002) for examples of older and more conservative German reactions). This change in interpretation is a worldwide and global cultural phenomenon, and in this essay we see it as playing a direct causal role in higher educational expansion everywhere. In recent years, it is especially highly organized in Europe, with the “Bologna Process,” but it is really a global process, and the results are global in scope.

## **The Worldwide Character of Higher Educational Expansion**

Banks (2001) assembled data on higher educational enrollments for countries around the world from the late 19<sup>th</sup> century to the early 1980s. UNESCO provides similar data in recent years (e.g., UNESCO 2004). The definitions employed are fairly conventional, covering post-secondary education with enough of an academic character to be seen as comparable to traditional university-level work: the great majority of the enrollments are in fact in institutions called universities, or explicitly treated as university equivalent. We combined these two sources to construct a dataset that covers the whole world for the entire twentieth century (Schofer/Meyer 2005). There are undoubtedly missing data, but they are not likely to contribute much error, since the missing cases are typically colonies or poor countries early in the century, and these cases account for little or no enrollment. The overall global trend is depicted in Figure 1, which shows the extraordinary growth of higher education enrollments in a specific time period following World War II.



*Figure 1: World Tertiary Students, 1815-2000*

In 1900, only about half a million students were enrolled in the world, making up a small fraction of a single per cent of the relevant age cohort. By 2000, about a hundred million students are involved, representing something like twenty per cent of the relevant age cohort worldwide (UNESCO 2004, Schofer/Meyer 2005). And the great bulk of the growth occurred in the last four decades of the twentieth century. One can imagine an expansion of this magnitude as part of a world system of Western domination, like high-technology development or oil consumption (Wallerstein 1974). The idea is that the world tends to be a single economy organized around a sharply-defined and often exploitive class system. In this case, the expansion would occur principally in the developed world, with low rates of growth in developing countries. The world is an extraordinarily unequal social system, and it would certainly make sense to observe the fruits of extreme inequality in differential rates of educational expansion. Many interpretations of modern social change have this character, and in the case of higher education, there are interpretive efforts along this line (e.g., Clark 1992). But this line of thought has some difficulty coming to terms with worldwide expansion, in all sorts of countries both central and peripheral. So there are reasons to be skeptical:

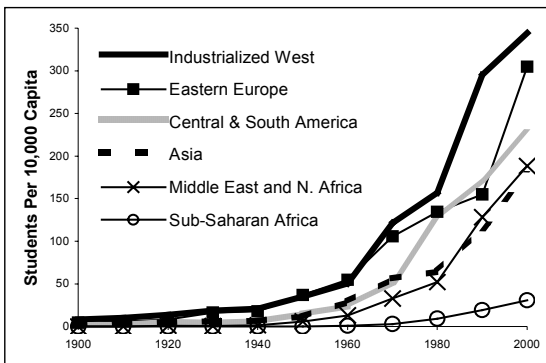
a) As an empirical matter, research on the expansion of mass education has shown that in the last half of the twentieth century high and comparable rates of expansion occur in all sorts of countries, relatively independent of developmental levels.

b) As a theoretical matter, neoinstitutional theory in sociology emphasizes dramatically how much the institutions of modernity (as opposed to the actual income and resource levels nominally associated

with these modern institutions) diffuse around the world independent of socioeconomic developments (see the summaries in Meyer et al. 1997, or for education, Meyer/Ramirez 2000). Mass education is clearly one of these institutions. Higher education seems to be another.

c) As a practical matter, higher education is one of those institutions whose costs may be scaled to the economic level of the country in which it occurred. As with other educational institutions, costs are mainly in salaries, and salaries can be low in poor countries. Further, there is no standard worldwide definition of educational standards (e.g., libraries, faculty competence, research facilities), so an organization can be considered a university in a poor country that would be far beneath the scale of acceptability in a rich one.

*Figure 2: Tertiary Enrollment per 10,000 Capita, Regional Averages, 1900-2000*



The data on the issue are definitive. In Figure Two, we classify countries by world region, as a simple way to show the results. The West (including the Anglo-American democracies) and Eastern Europe are set against the less developed regions of the world. We show the mean ratios of educational enrollment to overall population for each region through as much of the twentieth century as we can. Two methodological issues may be noted.

a) The ratios are calculated with the whole national population as denominator because in early decades of the century precise age-group estimates are often missing. This turns out to create little error: analyses for the last half of the century using UNESCO data permit the employment of the appropriate denominator (customarily, the population aged 20-24), and show exactly the same patterns we report here.

b) Data availability changes mean that increasing numbers of countries are included in the analyses as time goes on. Schofer/Meyer (2005) show, by using constant sets of countries, that such more precise analyses show the same patterns as those reported here.

We can summarize the results simply. Roughly similar rates of growth are to be found in every group of countries that we can distinguish. Everywhere there is expansion. And everywhere this expansion is concentrated in the period since 1960. Even in Sub-Saharan Africa, which enters post-colonial society with almost no tertiary education, we find the same growth pattern that we note elsewhere. The African curve is far below the others (which are surprisingly similar), and that may lead a reader to misinterpret the data. In fact, the growth rate in Africa is quite high in this period, and is very similar to that found in every other region. Some African countries now easily have enrollment ratios that exceed European countries of a few decades ago. The data show a few interesting subtleties, such as a slower rate of growth we note in Eastern Europe in the 1970s and 1980s. This interesting observation is analyzed in detail by several scholars with much better data than we present here. Their interpretations, consistent with our own, are noted below. For now, we need to call attention to the main observation. For every type of country, relatively independent of national resources, let alone national “needs,” high growth in higher educational enrollments can be found in the period since the 1950s. Detailed analyses show that this pattern characterizes not just types of countries, but almost all individual countries. As a result, gross tertiary enrollment ratios in European countries can exceed 80 %.

Thus higher education expansion in the modern period is principally a global pattern, rather than a distinctive set of national patterns. However, some national variation is evident despite the massive global trend. Quantitative analyses presented in Schofer and Meyer (2005) explore the issue using pooled panel regression analyses over the period from 1900 to 2000 for a sample of roughly 100 countries. Statistical analyses show that higher educational expansion is a bit more rapid in richer countries, which could reflect both greater demand and more ready supply in such countries. And expansion is greater in countries with more expanded mass educational systems, which could reflect the greater supply of candidates, or more likely the processes of status competition celebrated in a long and distinguished literature (Boudon 1973, Bourdieu/Passeron 1977, Dore 1975, Collins 1979, 2000). On the other hand, perhaps this effect too indicates the same global process of educational expansion that the expansion of higher education does. Earlier research, indeed, shows that the worldwide takeoff of mass education took shape

in precisely the same post-1950 time period that triggered the expansion of higher education (Meyer et al. 1992).

## Explaining the Global Pattern of Expansion

The global character of higher educational expansion contradicts some of the most traditional or conventional explanations of variations in educational systems. A pervasive functionalism runs through most of the literature, in particular stressing the impact of economic change in creating needs for expanded education to meet present or future labor force requirements. Present requirements obviously can show up in labor force demand, with scarcities, production bottlenecks, and the like. Future labor force requirements can show up through formal and informal processes of manpower planning.

Functionalist ideas are rooted in two main empirical claims, both of which are potentially problematic. First is the idea that economic change creates real labor market demands for highly educated individuals. The research literature has not observed much of a relationship between economic factors and educational change (Meyer/Ramirez 2000, Windolf 1997). For instance, Windolf (1997) did not find that patterns of industrialization could account for trends in higher education expansion, while Schofer and Meyer (2005) find only a small (and somewhat unstable) effect. The sheer levels of enrollments – exceeding 80 percent in Europe and well into double-digits within some agricultural Sub-Saharan nations – hint that educational expansion may be sharply decoupled from real economic demand. A second idea, which has received somewhat greater support in the literature, is that higher education produces functional benefits for the economy, and thus it is reasonable for states to pursue aggressive expansion. For instance, economists have repeatedly shown that mass education expansion has a large positive effect on national economic growth (Barro/Sala-i-Martin 1995). Also, Schofer et al. (2000) find that higher education enrollments in math and science have positive effects on economic growth. Finally, classic economic studies of “rates of return” show substantial public and private benefits of higher education (Psacharopoulos 1982). While the latter “rate of return” studies involve dubious assumptions (for instance, that higher wages for degree holders reflect increased skills and efficiency rather than screening or credentialing effects), the literature hints that higher education may be a source of economic benefit. But even on this issue, research findings are mixed. While enrollments in math and science may yield benefits, studies of overall tertiary enrollment fail to observe such

an effect. In fact, in a number of studies, tertiary educational expansion shows statistically insignificant *negative* effects on subsequent national economic growth (Chabbott/Ramirez 2000, Benavot 1992).

For the Third World, functionalist ideas fail on the face of it. The occupational structures and economies of such countries by no means went through the kinds of growth that might have generated large-scale educational expansion. Typical Third World countries now have higher educational enrollment rates far above those of Germany, France, or Great Britain three or four decades ago – clearly exceeding any plausible labor market demand. For example, Kazakhstan now has as many higher education students as the whole world had in 1900 (Banks 2001, UNESCO 2004). The rapid expansion of tertiary education in modern African countries, despite consistent records of economic failure, makes it clear that economic development – and its functional requirements – is not a sufficient explanatory variable in accounting for educational expansion. Sociological institutionalist ideas are of much greater utility here (see e.g., Meyer et al. 1997, Meyer/Ramirez 2000). These lines of thought decompose the problem into two components. First, they offer explanations of the *worldwide* character of the global expansion. Second they offer explanations of the *expansionist* character of the global change.

1) *Explaining the global character of change*: Institutional theory emphasizes the worldwide commitment of countries to aggressive doctrines of both socio-economic progress and individual human development, and to the expanding ideologies that education is a key to this progress. A rapidly expanding world society built up the powers and responsibilities of a great many nation-states, throughout the Third World. The idea that all countries, including the Third World ones, could develop (and develop rapidly) took firm hold. Thus, while countries differed enormously in economic development, their highly legitimated long-term goals came to be extremely similar. Copying expanded educational models made sense in terms of their common developmental goals, even if not in terms of their actual socio-economic realities. In other words, while functional theory cannot plausibly explain worldwide expansion, functional theory seen as a common world developmental ideology does the explanatory task rather well. Common goals, and common models of how to pursue those goals, create worldwide isomorphic educational change.

In explaining common worldwide change patterns in the field of education, institutional theory has a special advantage. Even to the most sophisticated empirical and theoretical analysts, the causal linkage between educational change and socio-economic progress is quite opaque

(see Chabbott/Ramirez 2000 for a review). There is a worldwide ideological agreement that education is indeed a main source of social progress, but the character of the link is very unclear. This is a situation that generates the rapid diffusion of fashionable models of what an educational system should look like. Models can change rapidly, sometimes emphasizing the creation of technical skills and innovations through science and engineering, and at other times stressing the creation of socio-cultural integration through common cultural and social scientific understandings. American education has, thus, often been a kind of model for the world – but in the 1980s a substantial literature emphasized the virtues of Japanese education (e.g., Rohlen 1983), and before World War I German education was something of an ideal. Overall, we can conclude that national systems of higher education are subject to global models, and tend to change in line with changes in these models. The effect obviously intensifies after World War II. Principles of nationalism, and celebrations of unique national trajectories, did not look attractive after two World Wars and a Great Depression that were widely attributed to precisely such models. The delegitimation of nationalism and nationalist educational systems was, of course, especially striking in the European case. Post-war developmental efforts in Europe stressed the need to open up closed national systems of all sorts. This tendency is built into the European Union, and dramatically celebrated in the recent Bologna Process efforts to explicitly internationalize higher education (Teichler 2002).

2) *Explaining the expansionist character of global models:* We arrive at an understanding of the diffusion of global educational models in the modern period. We need now to address why the dominant and fashionable models of education tended so dramatically to emphasize expansions that would have seemed unreasonable and even dangerous in any earlier period. Obviously, the model of the properly developing society went through sharp changes. We can understand what happened if we consider the forces that limited higher educational expansion, in most countries and notably in European ones, in earlier historical periods. This is not difficult to do, since the literature on higher educational systems historically stressed the “natural” character of constraints on expansion. By and large, this literature treats educational systems as generating personnel (and knowledge) for a real and rather closed national social system which itself changes rather slowly over time. A slowly changing distribution of occupations (and some other roles) is imagined. Each position in this distribution is thought to have knowledge and training requirements, so that an educational system should ideally generate a distribution of persons matching the distribution of occupations (as well

as mechanisms for placing the trained persons into the correct positions). An educational system that produces too few trained people will limit social development and even the effective maintenance of a fixed social order (Lenhardt 2002, Ramirez 2002). On the other hand, an educational system that produces more training than is needed can create severe problems: over-education is the core idea. Over-education can simply be inefficient, as time and money are spent on unneeded years of training – this would be a concern from a classical liberal posture (Teichler 2002, for examples of concerns along these lines). But worse, over-education can be destructive. Unemployed schooled people are thought to be anomic, and to experience dissatisfying unfulfillable yearnings. Masses of them may, it is thought, create much social trouble – revolutions of rising expectations that cannot be fulfilled by the existing social order (Huntington 1968). Ideas of this sort remain in the background during the modern period (see Lenhardt 2002, for examples), though without much effectiveness. Notions of “overeducation” may maintain especial sentimental value in Europe, in reaction to the sweeping changes produced by rapid educational change, and in particular by the dramatic legitimization of this supra-national change symbolized in the Bologna Process of recent years.

The old European state system thickly institutionalized more traditional educational models in both discourse and organizational practice. So the destruction of these models in the current period could confront in Europe a more aggressive conservatism than anything possible in weaker and newer national political systems in the rest of the world (Ramirez/Meyer 2002 for a discussion of the forces supporting exceptionalist ideas). This makes the dramatic success of the Bologna Process, which began with the most limited controversy and took on an impressive life of its own with the most astonishingly limited resistance, especially interesting. In any case, in an older (and especially European) model of education as necessarily adapted to a closed and slowly changing national society, constraints on educational expansion seemed very reasonable. And indeed, the traditional literature in the field treated constraints as normal. In particular, the state should play this role (especially in Europe – Ramirez 2002), and it was commonly understood that strong state systems control the sorts of unregulated and inflationary competition that might generate runaway educational expansion (Ben-David/Zloczower 1962, Collins 1979 and many others). In these lines of argument, educational expansion was likely to characterize modern societies in which state controls were insufficient, and broke down. This was the common interpretation of the early and unruly expansion of higher education in the United States.

An interesting specialized literature shows empirical results along this line even in the most recent period. Communist systems quite deliberately faced the issues noted above in the 1970s and 1980s, and across the communist world were able to stop the world-wide runaway higher educational expansion of the period (Lenhardt/Stock 2000). The idea was to keep educational expansion under control for several reasons: first, to keep political control in the hands of the party of the working class and out of the hands of an expanding population of experts (Konrad/Szelenyi 1979); and second, to keep training closely linked to real manpower requirements. Thus, in the modern period, strong central authority can keep higher education under control, and in the case of the Communist countries, did so. But we observe in the world a good many strong national states, with ample controls over their higher educational systems, that are no longer able or willing to constrain educational expansion (e.g., France or Sweden). This suggests that Communist success in maintaining constraint reflected not only the centralized controls, but also the older model of the closed society characteristic of Communist (and especially in Europe, many other) more traditional ideologies (Ramirez 2002).

In the non-Communist world, a fundamentally changed model of society came into place in the post-War period. It was a model of a more liberal, participatory, and developing society, in which much future progress could be built on educational expansion. And especially in Europe, with the rise of the European Union, it was a model of society as an open system in a much more globalized Europe and world: expanded education made sense as a broad strategy for national activity in this world (Ramirez 2002, Teichler 2002). And it was a broadly liberal model of society in much more than simply economic terms (Djelic 1998). Expansive individual capacity for action was seen as far more important than organizing schooling to fit people into a collective social organism. Human capital thinking in economics, political development theory in political science, post-structuralist theory in anthropology, and all sorts of interactionist theories in sociology, all reflected this picture of a national society resting on expanding individual capabilities. In this new picture, celebrated for example, by the modern World Bank (2000), there could be no such thing as over-education. More educated people would create economic (and political, and social) progress. In this brave new world, expanded individual aspirations for more education were not indicative of social disorder and a “diploma disease,” but were valid and highly legitimate sources of the collective good. Limited educational aspirations (and excessive controls over aspirations) came under ugly terms like “dropout.” Similarly, collective processes generating ex-



panded places in higher education were reconceptualized as, almost by definition, social and economic progress.

In short, in the new model education became a core source for social and economic progress, rather than a functionally necessary outcome of the demands created by such progress. Thus it follows that expanded education resulted from the expanded and changed ideas about progress – found everywhere in the non-Communist world – rather than from the actual and highly variable course of real socio-economic development in the world. Expanded education reflected the universalized new goals and models, not the variable mundane realities of the world's economic and social systems.

## **Sources of the New Model**

We can briefly reflect on the wider global social changes that undercut the older closed model of education and society, with its fears of over-education and anomie, and sustained the new vision of continuous development produced by individuals with greatly expanded schooled potential.

1) *Undercutting the old model:* World War II, and the defeat of fascism, strikingly delegitimated nationalist corporatism (see Djelic 1998, for a discussion of the Marshall Plan response). So did the Great Depression, whose trajectory was understood to result from political failure. The primordial sovereignty of the closed national state and society, with ideas of the necessary sacrifice of individual attainments for the collective good, was deeply stigmatized, along with a variety of institutionalized European models. The failures of individual rights involved in the closed system were overwhelmingly obvious. Even the racist United States and colonialist Britain symbolically supported principles of global human rights in the Atlantic Charter. Thus education came increasingly to be seen as properly organized for individual development (and collective progress resulting from this development) rather than for slots in the machinery of an organic national society.

2) *Supporting the new model:* Liberal national societies – particularly the United States – with their ideologies of the centrality of the expanded individual, dominated the post-War world. More than a military victory, their triumph had a cultural and ideological character. Liberal dominance created a whole new world political order (Meyer et al. 1997), filled with governmental and non-governmental associations, and infused with all sorts of doctrines about the virtues of indefinitely expanded education (Boli/Thomas 1999, Chabbott 2002, Schofer 1999). In

recent years, this expanded world polity has generated pressures for “education for all,” including ideas about the need for globally expanded secondary and higher education (World Bank 2000). Further advantages lay in the confrontation with decolonization. A disorderly Third World, threatened by Communist ideas, could find a true and peaceful way to progress through expanded education. The actual Cold War competition made the discovery of pathways to national development an urgent matter, and education provided an obvious means. Universities were set up, and rapidly expanded, in the furthest Third World countries, eager to achieve national integration and progress and to replace imperial elites with home-grown ones. Finally, the need for societies to function in an open global world rather than a closed national one was obvious. The atomic age made international military conflict unattractive as a means to progress, economic globalization and expansion offered obvious advantages to the skilled and competent, and political integration made expanded education a reasonable strategy.

All these changes hit with special force on European education and society. The delegitimation of the older world was especially extreme. And the expansive supra-nationalization of the new world in discourse, organization, and very tangible reality was an overwhelming presence with the rise of the whole panoply of European institutions. In fact, forceful Europeanization and globalization often merge in modern European thinking about educational expansion. National policy-makers imagine their people and their countries have to compete on a vastly broader scale, with technical developments and human capacities requiring enormous educational expansion, standardization, and improvement. The new and emergent world polity is expansive and rationalized. And, even in Europe, it is stateless. As Tocqueville long ago noted in discussing American society, such social systems rely on forms of social control outside the state. A core mechanism of this sort, of course, is education: and theories of American educational expansion call attention to the roots of this expansion in American ideologies of social control. So the institutions of the new globalized world are all built on models of a more schooled population (Meyer 1977), as a core component of a world polity. Expanded and empowered individuals are central: Expanded individual rights certainly include education, and other rights (e.g., to health, to population control) rest on education.

Another mechanism of social control, also built into the higher education system is science. In the modern rationalized but stateless world polity, science functions as a kind of common cultural frame and source of control (Drori et al. 2003). And the modern social order is highly rationalized, providing a fertile field for education: the modern business

firm is a rationalized organization, as is the modern state, and the modern medical care system, the modern religious body, and so on and on. The models of rational organization that spread are essentially all rooted in the university and other institutions of higher education: it makes a certain sense in a stateless expansive Europe, or world polity, that managerialism and the business school would be the most rapidly expanding forms of education (the papers in Sahlin-Andersson/Engwall 2002).

All this scientization and rationalization, of course, transforms higher education organizationally, beyond simply massive expansion. A striking feature of higher educational change around the world – and most dramatically in Europe – is its managerialist organizational reconstruction. In Europe, this is embodied in the Bologna Process (Ramirez 2002, Teichler 2002). The old corporatist boundaries around the academic profession, and its traditional university arrangements, are undercut at every turn. Old exclusionary arrangements limiting the access of both types of students and types of knowledge to higher education tend to disappear. Students have choices, and so do the old academic underclasses laboring under the old Professors. And so do all sorts of formerly excluded interests in state and society, who demand entry for their young as well as their substantive agendas. The “knowledge society” is linked to the university, and the linkage is a two-way street. The university is more dominant in society than ever before. But society is more dominant over the university than ever before, too (Schofer 1999). Thus, especially in Europe, the whole change gets organized, and formal organization of it greatly expands. There is talk about accountability, and measurement (of teaching and research, for instance). The old universities are forced to become something called “decisionmakers” (Krücken/Meier 2006). Resources are to be rationed and accounted. Categories from an older world of tradition and opacity are defined and standardized (unique degrees turn into BAs and MAs; specialized institutions are re-legitimated in terms of standard academic credits). Autonomous professors are assembled into rationalized organized units, and old privileges redefined in standardized accountings. One can describe it all as progress and/or as the destruction of tradition.

Statistical evidence from pooled panel regression analyses of higher education enrollments provides strong support for these arguments. Quantitative measures of the rise of a liberal, democratized, and rationalized global culture have massive positive effects on national enrollments (Schofer/Meyer 2005). And, nations with strong ties to the world polity (e.g., measured by country memberships in international non-governmental organizations) expand education more rapidly than do nations with fewer international ties. Results suggest that the world polity

played a major role in encouraging the global expansion of higher education.

## Conclusion

A wave of higher educational expansion, starting around 1960 and running into the present, characterizes the entire world. Its universality convincingly demonstrates that it is not driven by particular national characteristics like economic requirements or resources. Higher educational expansion is clearly part of a global model of society and of education. It gains power on a world-wide scale not because the world's societies are so similar, but because their goals similarly focus on socio-economic progress, and because education is seen in all dominant world ideologies as a main means to achieve progress.

Older notions of education as properly organized to fit people into positions in an established social order were undercut in the post-War period, most dramatically in Europe. The new model stressed education as a cause, rather than a necessary functional consequence, of economic growth and change. In economic thinking, human capital ideologies replaced the older model. In political and social life, models of expanded individual capability as creating progressive change replaced more static models, with their stress on orderly conformity to the social order. It is now difficult to conceptualize conventional older ideas like “over-education” as a real social problem. Expanded human potential, presumably to be carried along on a life-time learning basis, is seen as a source of social progress rather than of disorganization and anomie. It is linked to conceptions of an expansive global society built on greatly expanded conceptions of human rights and human potentials.

It is beyond our purposes here to discuss at length the effects of this revolutionary change. Obviously a world in which masses of people even in the furthest periphery have higher education – and education in a common world culture – is transformed. Potentials for organized collective action are enormously enhanced. A sweeping world movement for the environment can be built on university science. A similar movement for organizational reform, standardization, and transparency can be built on rationalistic university social science. And a global human rights movement can celebrate the rights and capacities of highly schooled populations. Expanded collective action possibilities produced by expanded education also increase potentials for conflict. A common universalistic world culture makes even more problematic the extreme inequalities in resources characteristic of world society. And it makes re-

maintaining cultural and religious differences sources of conflict on a global scale. Under conditions of integration under common elites, inequalities can readily come to be seen as injustices, and cultural differences as violations of supposedly common norms.

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# Are Universities Specific Organisations?

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CHRISTINE MUSSELIN

## Introduction

A few decades ago, highlighting the organisational specificity of universities was a common exercise. Most publications – from the Merton school of writings stressing the exceptional character of the academic profession to the decision-making analysis led by J. March and his colleagues (Cohen/March/Olsen 1972) that characterized universities as organized anarchies in which the garbage can model of decision making prevails – concluded that universities were not organisations “like others”. While these authors outlined the organisational particularities of universities, others also stressed their diversity due to the original models which influenced them (Humboldtian, Napoleonic, Anglo-Saxon ...) and their national implementation. Thus universities were not only specific organisations: they moreover followed national patterns.

Since the 80s, two remarkable reverse trends developed that both contest the preceding assumptions. On the one hand, universities are expected to become like any other organisation. Their specificity is denied and managerial tools from the industrial sector (and in particular in firms) has been introduced in universities (Reed 2001 and 2003) which are supposed to become more entrepreneurial, more corporate, more accountable etc. Universities have been made less “sacred”; they are denied their exceptional character and asked to go through “economic rationalisation” and an “organisational shift”. On the other hand, this general trend should weaken the influence of the national models and therefore reduce the organizational variety among universities. But how far does this trend go and how successful is it? Could it mean that the resistance encountered by many of the managerial reforms and reported in almost every case study shows that, even if less “special” than was



thought some decades ago, universities nevertheless possess organisational characteristics that distinguish them from many other organisations? And if so, should we not better identify such characteristics?

This contribution intends to discuss such issues by once again raising some old and forsaken questions: how much do universities differ from firms or from other public services? How “universal” are those characteristics? What impact do they have on university governance? How have they been affected by the recent reforms and transformations? To answer these questions, the paper will be structured into three parts. It will retrace the shift from specific university models to the more recent conception of universities as “ordinary organisations”. Then some specific organisational characteristics of universities will be identified. Finally the impact of the latter on university governance will be explored.

## **1. The Deconstruction of University as an Organisational Exception**

In this section, a first part will be dedicated to a rapid presentation of the models which have been developed before the eighties to describe and analyse universities and which in most cases underlined university specificities. The second part will focus on the reverse trend that began in the eighties and required higher education institutions to renounce their organisational exception, that is to become “organisations” like others.

### **1.1 From University Models ...**

The interest of organisation theorists for universities as a research issue can be traced back to the sixties in the US. Until then, the prevailing viewpoint of the academic world focused on its members rather than on its institutions and was dominated by the Mertonian approach. These organisation sociologists developed four different models mostly aiming at characterising decision-making processes, each model allegedly being able to better describe the very nature of universities than the previous ones. Some of these fundamental models led to the elaboration of a more general organisation theory.

The first one is the collegial model. In its “original” version (Goodman 1962, Millett 1962), it relied on the assumption of the existence of an academic (scientific) community sharing the same norms and values and therefore able to come to consensual decision-making and to over-

come individualistic and private antagonisms. B.R. Clark expanded this conception in his paper on 'organizational saga' (1971, 1972): in his view collegiality does not only refer to the academic professional norms and values, but more broadly to those shared by all the actors involved in the same institutional community – faculty members of course, but also administrators, students, trustees, etc. – and linked by the saga of its institution, its foundation and its history. It is easy to see how such an approach is narrowly correlated to the research field which developed in the 80s and focused on university 'cultures' (for instance Chaffee 1984, Tierney 1988) further encouraging the idea that more than any other organisation, universities are characterized by the influence of specific values.

This consensual values-based vision of universities was strongly contested by G. Baldrige (1971) who stressed the political nature of decision processes and concluded that neither academic nor institutional values were able to reduce the diverging interests at hand. For Baldrige, universities are filled with conflicts and power relationships that are to be taken into account in order to understand the negotiation and political exchanges that structure decision-making. When studying budget allocation in universities J. Pfeffer and G. Salancik (Pfeffer/Salancik 1974, Salancik/Pfeffer 1974) adopted a similar perspective and further emphasized the role of power in such organisations. They concluded that the more a department was able to get support from the environment, the stronger it was in the negotiation of resources. Their study on universities became the starting points of the well known 'resource dependence' theory they subsequently developed (Pfeffer/Salancik 1978) in which they expanded their previous work on universities to other organisations.

The third model which was explored relies on the path opened by sociologists such as R. Merton (1940), A. Gouldner (1935) or P. Selznick (1949), who discussed the Weberian theory on bureaucratisation. Following a similar line of questioning, P. Blau (1973) deployed such an approach to universities. He showed that they are a decentralized type of bureaucracy, and more so for the organization of teaching than for research. This conception of higher education institutions as places where 'bureaucratic' features and rational logics are also to be found was then taken up by Mintzberg (1979), who defined universities as "professional bureaucracies".

The rational as well as the political nature of decision-making in universities was finally strongly contested by M. Cohen, J. March and J. Olsen (1972; see also Cohen/March 1974) who described universities as "organized anarchies", i.e. organisations characterized by multiple goals,

unclear technology and fluid participation. They attached a specific model of decision-making to these organised anarchies: the garbage can model<sup>1</sup>. It refers to cases where decision-making results from the independent intersection of four 'streams': participants, problems, choice opportunities and solutions. Two main developments derived from this contribution. First the optimal rational model of decision-making as well as the procedural model defended by H. Simon (1955) (in which participants act according to their bounded rationality and cease looking for solutions once they meet one satisfying) were deeply destabilised. When the garbage can model prevails solutions are neither optimal nor satisfying because they often are disconnected from the problems to be solved, the linear process leading from problems to solutions becomes an exception (solutions may exist before problems); the hypothesis on the (absolute or bounded) rationality of agents is left aside and replaced by the attention potential of each participant. Second, possible expansion of this model to non academic situations has been discussed: see for instance Padgett (1980) for an extension to hierarchies and bureaucracy, Sproull et al. (1978) for an application on an educational department, or the well-known adjustment of this thesis to public policies led by J. Kingdon (1984).

From the mid-1970s upwards, no new models emerged, as if higher education observers abandoned the idea of finding a new challenging model. Rather they combined the four existing approaches in three ways. First, some researchers empirically compared various universities and concluded that each of the four models could be met and that each university could be qualified by one of them. Some institutions were thus collegial, while others were rational, or political, or organised anarchies (see for instance Hardy et al. 1983 and Hardy 1989 and 1992 on Canadian universities). Typologies could then be constructed, refined and become more complex (Hardy 1990: 38-39 in particular). Second, some authors looked at different decision-making processes within one single university and observed that they meet one or the other model according to the domain under study (funding, teaching, research, etc). These authors (for instance Davis/Morgan 1982, Taylor 1983, Ellström 1983, Birnbaum 1988) concluded that the specificity of universities was to shelter different models of decision-making. Third some dynamic hypothesis were proposed by authors like I. McNay (1995) or D. Braun and F.-X. Merrien (1999) who suggested that, collegiality and bureaucracy were two successive stages experienced by universities before they shifted more recently to the corporation and to the entrepreneurial mod-

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1 For a discussion of this model see Friedberg (1993) and Musselin (1996).

els. This last perspective already announces the reversal which developed in the eighties. Beforehand, sociologists used universities as extreme case studies allowing the identification of organisational models that, in some cases, were further developed and adapted to other organisational situations. Recent decades are characterized by a denial of the specificity of the universities and by the importation of non academic models (corporation model, entrepreneurial model, managerial model, etc.) in universities.

This transformation of the literature is linked to the evolution of the role of universities in our societies, but it is also a normative shift. Both orientation, pushing for the identification of university singularities or denying them, include some ideological and normative views from their authors. When describing universities as collegial entities, authors relied on their observations but at the same time were convinced that universities *should* be collegial. Notions like “organized anarchy”, “garbage can model” (Cohen/March/Olsen 1972) or “loosely coupled system” (Weick 1976), clearly – intentionally? – gave credence to the idea that such institutions are not ordinary ones and in a way intended to discourage the appointed presidents as well as public authorities to try to steer them. Reciprocally, the current credo about the necessity for universities to conform to models imposed on them is supported by rather objective factors (the transformation of higher education systems into mass education, the public finance crisis faced by developed countries ...) but also includes more normative perspectives about the emergence of knowledge societies, the role of the university in such societies, the new public management rhetoric, etc.

## 1.2 ... to Universities as Organisations

In order to avoid the laborious<sup>2</sup> description of the “new” models, I shall focus on the main mechanisms involved in the reforms aimed at transforming universities. In this perspective, N. Brunsson and K. Sahlin-Andersson (2000) provide a useful analytical framework when they suggest considering these transformations as attempts at “constructing organisations”. For the two authors, this first implies the construction of identity and in particular the strengthening of autonomy: this has been

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2 Laborious because those models are not as strongly characterized as the four “university” models described above. The distinction between the corporate model, the managerial model, the entrepreneurial model, the learning organisation model, the service university model (and probably some others) deals much more with nuances than with identified and well established differences.

one of the principal mottos of most higher education reforms, leading public authorities to delegate decisions they previously controlled and to incite universities to become less dependent on public funding. On the one hand, such an evolution goes along with the construction of boundaries: while faculty members traditionally feel much more committed to their discipline than to their university (Altbach 1996), various instruments worked at reinforcing the links between academics and their institution in the recent years. Among them, the development of internal labour markets (Musselin 2005a) played a powerful role, but the introduction of accounting and management software tending to harmonize the individual practices also had an impact by “linking” university members by the same “tools” and by better defining who is inside and who is outside. On the other hand, such an evolution also encouraged “being special”: each university should now reveal its difference, look for differentiation, put forward its specificities and advantages in strategic plans emphasizing their singularities and their “distinctiveness” (Musselin 2001/2004).

For Brunsson and Sahlin-Andersson “constructing organisations” also means building a hierarchy. This happened in universities through the emergence and implementation of more coherent institutional policies. Each institution being expected to develop a common project with shared priorities, it encourages more coordination as well as more control on individual behaviours in order to keep them coherent with the overall institutional project. This is achieved thanks to a strengthened executive leadership and a reduced influence of deliberative bodies (Kogan/Hanney 2000 for the United Kingdom, de Boer/Goedegebuure 2001, for the Netherlands). The role expectations towards academic leaders also changed. From *primus inter pares* intended to arbitrate between internal oppositions and to defend the interests of their community, academic leaders are asked to become managers with new competences: academic recognition is supplanted by management skills.

The construction of rationality (setting objectives, measuring results and allocating responsibility), the last process considered by Brunsson and Sahlin-Andersson in constructing organisations, finally also occurred in universities. While their inability to set objectives was previously described as one of their main feature and specificity – M. Cohen, J. March and J. Olsen (1972) spoke of “problematic preferences” – they are now expected to select among their always more numerous (Gueissaz 1999) and incompatible goals and to define their specific profile. Differentiation is a rationale for this objective but it is also a way to motivate universities to conform to the schemes of action prevailing in other organisations and to define objectives, set the means necessary to

reach them, act, and evaluate the outcomes. This thus tends to rationalise the production process within universities and to promote notions such as responsibility, relevance, accountability etc.

Many features therefore document the existence of a trend transforming universities into organisations. Our argument is neither to contest this trend nor to criticise it but to observe that, surprisingly, this powerful evolution seems to have rather little impact on universities. As a matter of fact, many empirical studies analysing the concrete effects of these transformations come to question their “true” impact<sup>3</sup> at the institutional level but even more at the individual level (see for instance, Bauer et al. 1999, Bleiklie et al. 2000, de Boer 2001 and 2002, Henkel 2000, Kogan and Haney 2000, Mignot-Gérard/Musselin 1999, 2000 and 2002, Reed/Deem, 2002). The high number of studies showing the limits of change processes is certainly not typical for universities. In all organisations, implementing change is challenging and encounters resistance. Universities do not escape this organisational trend. Nevertheless, it will be argued in the next section that some specific characteristics of universities further complicate the change processes pushed by the reforms and consequently affect the management (or governance) of such institutions. It is important to identify them, not to say that universities are so specific that one should not even think of transforming them, but to better understand why the current reforms are facing problems and the kinds of difficulties they encounter.

## 2. Organisational Specificities of Universities

It will be argued that two characteristics (that can hardly be simultaneously observed in other industrial activities) are specific to universities. First, academic tasks are functionally loosely coupled. Second, teaching and research are unclear technologies.

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3 They also stress that the apparent convergence among the reforms launched, in fact results in national developments and implementations, often strengthening the individual characteristics of each national systems and increasing the organisational divergences between universities located in different countries while at the same time accentuating the differentiation within a single country (Kogan et al. 2000, Musselin 2000).

## 2.1 Functional Loose Coupling Characterizes both Teaching and Research Activities

Functional loose coupling refers to the low level of cooperation and coordination required by teaching and research activities within higher education institutions (Weick 1976). In few other work places, if any, is it as frequent to ignore what colleagues seated next door are doing and observe so little influence of the activities of those colleagues on one's own tasks. For instance, academics know very little about what is taught by their colleagues in the curricula in which they are involved: thus it has little influence in the preparation of their own teaching. Some disciplines are of course less affected than others by this. In a study recently led on French academics<sup>4</sup> (Becquet/Musselin, 2004), we observed that physicists constitute small teaching groups (around five persons) among which one is responsible for the lecture courses, while others prepare the related discussion groups with the physicist giving the lecture. But they do not work with the other groups in charge of the other lecture courses. Furthermore, such an embryonic collaborative work is completely absent in some other disciplines under study, such as management or history.

This distinction also works for research activities. Team work is rare and when it exists (as in experimental physics or biology for instance) it is limited to small groups within which cooperation is intensive. But between these groups cooperation remains vastly poor. More frequent and more developed cooperation generally occurs with groups/individuals in other universities, within national or international networks. As shown by the recurrent complaints about the lack of multi-disciplinarity, interactions between entities belonging to different disciplines or located in different units (department, faculties ...) are not "natural" and hardly binding. The interdisciplinary research entities which were recently created in French universities (often called *Instituts fédératifs de recherche*) perfectly illustrate the limits of such initiatives: their introduction (often associated with one single building to house the different teams) hardly encourages more contacts and co-team work (Mignot-Gérard 2003).

The very nature of teaching and research activities explains such observations: they can be developed in rather strong isolation and share characteristics with craft activities<sup>5</sup> as defined by M. Granovetter and C. Tilly (1988). But it should not be forgotten that this specific character is

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4 It concerns four disciplines: physics, biology, management and history.

5 "In craft industry [...], either one worker makes the whole object or supervisors coordinate the work of specialists who have complementary skills" (Granovetter/Tilly, 1988: 184).

also socially constructed, i.e. reinforced by academics themselves. They do all they can to keep cooperation and coordination among them to a minimum thanks to three main strategies. First, they coordinate only when it can not be avoided: for instance when courses have to be allocated, or when a collective activity report has to be written and submitted to some assessment procedures. But even such compelling devices may be diverted and managed in a way that limits collective work to a minimum (Henkel 2000). Analysing the teaching assessment led by the British Quality Assurance Agency (QAA), B. Cret (2003) observed that within the concerned academic departments, the preparation of the report to be sent to the QAA could be left to one single faculty member and that no common reflection or work was led previous to the writing of the report. A second strategy to avoid cooperation consists in being reluctant to provide detailed information about the content of one's activity. Thirdly, the best way to avoid the intrusion of others is to respect their autonomy, i.e. not to look at or to discuss course content, not to interfere with research programmes, etc. Keeping cooperation among faculty members of the same university to a minimum is furthermore facilitated by the diversification of resources. The less faculty members are dependant on the resources provided by their institution, the less cooperative they can be and the less obliged they are to get involved in the internal "political" games for resources.

## 2.2 Unclear Technologies

The second specific character of academic work relies in the fact that teaching and research are rather unclear technologies. This partly results from the capacity of academics to resist and argue against rationalisation attempts but is also linked to the intrinsic nature of such activities. Two dimensions contribute to this unclear character.

### a) Teaching and Research are Complex Processes which are Difficult to Grasp

As for functional loose coupling, this characteristic is partly "constructed" and partly "intrinsic" to these activities. It is partly constructed because academics maintain opacity and because academic work has rarely been studied. It is only recently that teaching and learning in higher education institutions became a research theme. And there is probably a lot that could be done to better investigate what is involved in teaching. The reluctance of academics to open their lectures to researchers, the belief in teaching as a "private" autonomous activity, the quasi



sacred character that was often attributed to such activities, prevented pedagogical and didactical research for a long time and still can discredit the relevance of studies that would look at such activities as sociologists considered workers on the shop-floor.

Research activities have been less protected from investigation than teaching. The anthropology of science (Latour/Woolgar 1979, Latour 1987) and the “strong programme” (Bloor 1976) in particular paved the way to more concrete approaches of research activity and made scientists less “sacred”. Nevertheless, even if they deconstructed the heroic figure of the scientist, the latter remains the principal actor, the network-builder (Callon 1989) and these approaches still contribute to pointing at the irreducible specific character of science (while denying it at the same time). They also do not completely open the “black box” and research is still an obscure process, even when wonderful descriptions have been written (cf. Knorr-Cetina 1996 for instance). Furthermore, such approaches only focus on one aspect of academic activities (research), ignoring the others and to do not explain how faculty members arbitrate among them. If we definitively lack studies on teaching and research, these activities also bear intrinsic characteristics that make them difficult to grasp.

*First*, research and teaching are simply difficult to describe. Sociologists can certainly improve their methodological tools to better succeed in describing them but a large part of such activities can not be “studied” such as other tasks. *Second*, because they are not described, they can hardly be prescribed. Up to now, competencies in such activities are mostly acquired through doing by one’s self, observing others, submitting results to senior colleagues, having them discuss in seminar, etc. It still remains informal, person-based, unstructured. Books entitled “how to prepare a thesis” provide fine tricks but they can not explain how to write a thesis in the way technical notices tell us how to use a mobile phone. Again this specificity should not be overestimated: some aspects or some advice can indeed be “taught” and formalised about writing papers, preparing a lecture, behaving with students etc. Therefore training young academics for their future activities, personal development courses, support to teachers confronted with difficult class situations, etc. should be expanded. Nevertheless, many aspects escape prescription and set limits to in-depth rationalisation processes. *Third*, because teaching and research are difficult to describe and difficult to prescribe, they are also difficult to reproduce. One can relate how Cricks and Watson (Watson 1998) discovered the double helix structure of the DNA and thus how they won a Nobel prize but it is impossible to reproduce the

same process for another scientific enigma and to prescribe how to become a Nobel prize winner. The same is true for teaching.

Therefore, even if we have to recognize that there long has been an overestimation of the mysterious individual part of talent and “personal touch” in teaching and research, it would be misleading to completely deny that the production technology involved in teaching and research has nothing specific. The inaccuracy of those two extreme positions has clearly been stressed by the development of on-line curricula. On the one hand they proved that some teaching can partly be rationalised, formalised, reproduced and be supported by technologies. But on the other hand they often reveal the limits of such processes: in most cases, these technologies can not work without an impressive personal work from tutors and the maintenance of presential teaching (Miladi 2005a and 2005b).

#### **b) Ambiguous Causal Relationships between Tasks and Results**

The second dimension justifying the consideration of teaching and research as unclear technologies is linked to the ambiguous link between the way they are conducted and what they “produce”. What is the influence of what is taught and how it is taught, on the students? How does it affect the acquired competencies? What is the efficiency of one teaching situation compared with another? According to the signalling theory (Spence 1974) or the human capital theory for instance (Becker 1962), the reward gained by attending an elite university (for the first) or by studying one more year (for the second) is not linked to the content of what has been taught but to the fact of having been selected by the elite university (and the positive signal this represents) or of being able to attend one more year. There is for instance no evidence that French students attending the highly selective business schools are better trained than the university students attending the management programmes: but the former get higher salaries and better job positions and this can be explained either by the fact that they passed a selective process or by the teaching they received. We miss the correct instruments to measure which explanation is relevant and therefore often rely on highly speculative interpretations.

The causal link between the way research is led and its results is all the more complex as there is no fixed definition of what constitutes “good” research. For some, it means relevant to society while for others it first has to conform with academic norms, and still for others to respect both aims. But there is also no agreement on the way research

should be led to reach one objective or another. In many ways, research and teaching thus possess certain characteristics that are not shared by other work activities. This specificity should not be overestimated (as it often was the case in the past) and the recent trends in rationalising, measuring, assessing academic activities showed that they indeed can partially be affected by these processes. Nevertheless they also strongly resist such changes and this is due to their special features. The last part of the paper will be dedicated to the implications this has on university governance and change.

### **3. Implications for Change within Universities**

This specificity of academic work has a direct impact on university governance, and as a consequence, on change processes. It affects the efficiency of the tools that may be used to transform universities as well as the exercise of leadership in higher education institutions. On the first aspect it weakens the possibility to use formal structures as a lever to reinforce coordination and cooperation. On the second it modifies the exercise of leadership and the management of change within universities.

#### **3.1 The Limits of Formal Structures and Rules in Universities**

Many of the reforms introduced in universities in order to transform them into organisations led to the introduction of more rules, more procedures, new structures, new management techniques (including management software, reporting methods etc.). In organisation theory, from the Taylorist “scientific organisation of work”, to structural contingencies or to the recent “rediscovery” of institution, among many others<sup>6</sup>, such instruments are often presented as powerful means to improve organisations. Even if very different in many respects, these perspectives all consider, to a different degree<sup>7</sup>, that formal rules and structures de-

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6 Perspectives as historical neo-institutionalism and economic neo-institutionalism (Hall/Taylor, 1996) in a way “rediscover” the importance of (formal) structures on human behaviours.

7 The degree to which formal rules and structures succeed in limiting the actors autonomy may of course be discussed. For instance, in the research tradition in which I was trained (Crozier 1964, Crozier/Friedberg 1977, Friedberg 1993), the capacity of rules and structures in strongly determining behaviours is put into question. It much more focuses on the way actors play with formal structures and rules and looks at how the latter in

sign, foster and organise coordination and cooperation. The hierarchical structure and the borders of productive units specify who is in charge of what and how interdependent tasks are to be managed. Formal procedures moreover describe part of the productive process: which tasks come first, which follow and how, etc.

But in universities, formal structures and procedures, even if numerous, rarely favour cooperation and coordination. They hardly define what to do and how to do it because of the specific characteristics of teaching and research described above. Formal rules and structures may impose constraints, increase the bureaucratic burden, slow down the production process, etc. but they have little effect on content and even less on cooperation. To put it crudely: being part of the same unit, being managed by the same rules and having the same status does not increase the level of cooperation among the members of the unit. As a result, changing the formal structures most of the time has no effect. One of the French universities S. Mignot-Gérard and I studied (Mignot-Gérard/Musselin 1999) provides a good example. Up to 1992, it was composed of 17 faculties. The president decided to merge many of them and they were reduced to only 5. But six years later, the new faculties were still empty shells ignored and by-passed by the departments which were still operating as before.

In universities, formal rules and structures weakly support hierarchical power. Being appointed (or elected) as an academic leader does not allow for much influence on work orientation. Even in American universities, in which the department chairs and the deans are more powerful than in most European universities (they negotiate different teaching loads, decide on differentiated salary increases, etc.), they are not directly involved in the daily allocation of work or in defining the precise content of tasks. Academics remain autonomous in shaping their own activity and the way they prefer to develop them<sup>8</sup>. The role of formal structures and rules in universities is therefore limited by the nature of academic activities and the unclear technology incorporated in them. They nevertheless are numerous and one can wonder why, if they are not efficient? Neo-institutionalism provides us with some clues in explaining this phenomena. According to J. Meyer and B. Rowan (1977),

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some cases act as constraints, while in other situations they became resources for the same actors.

- 8 In their paper on biologists and how they conceive and manage their relationships to industry, J. Owen-Smith and W. Powell (2002) for instance always present the positioning adopted by each of the faculty members they describe as a product of their personal preferences. There is no reference to their institutional situation, or to negotiations with their department or university.

formal structures and rules can not increase cooperation and coordination (even on the contrary<sup>9</sup>) but are a way for organisations to appear as rational, to conform with the institutional environment and to gain legitimacy. This helps understanding why universities are organised in colleges or faculties, and then in departments. Once an organisation presents this kind of characteristics, it is identified as a higher education institution. Still following this research perspective, this convergence may be explained by the fact that leading higher education institutions are organised that way and regarded as models to imitate (DiMaggio/Powell 1983). But this also helps understanding why more and more formal structures and rules are introduced within universities: it is a way to comply with the environment pressures for being more organisations alike.

But such an explanation does not highlight why strong resistance and severe conflicts arise when one attempts to change the structures. If formal structures and rules only existed to conform with institutional environments, it should be easy to merge the department of philosophy with the department of linguistics (Bleiklie et al. 2000: 197-205). Why do academics fight with eagerness against the transformation of formal structures while they always state that their department does not matter much? Because rules and structures nevertheless count! Not in fostering and prescribing cooperation but in defining territories and borders and in protecting insiders. In universities, instead of coordinating, rules and structure first have a defensive role and create protected territories (Musselin 1990). Attempts to suppress, to merge, to redesign such structures reveal this potential strength. Rules and structures build frontiers that few, if any, feel they may transgress. They do not favour cooperation but allow for defensive solidarity. This defensive capacity provided by rules and structures in universities further explains the limited effects of the newly introduced formal devices on the institutional and on the individual levels: while trying to increase cooperation and coordination, they generally exacerbate the defensive potential of the already existing rules and structures. They strengthen the previous solidarities and generally fail to create new ones.

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9 A further interesting point for our discussion in Meyer and Rowan's paper is that they argue that conforming with environmental myths in fact increases loose coupling within organisations. In this paper I argue that loose coupling reciprocally weakens the capacity of formal rules and structures to promote cooperation and coordination. We could then conclude that this increases their role as myths which further increases loose coupling, installing thus a kind of vicious circle.

### 3.2 The Delicate Management of Change within Universities

The issue raised in the preceding section is a significant example of the governance problem faced by leaders in universities. Most of the management tools and devices expected to be introduced have been deployed for organisations where functional coupling prevails and where technologies are clearer. This is not the case in universities. The two intrinsic characteristics of such activities first preclude the efficiency of top-down, hierarchical leadership. Second they complicate the diffusion of change and innovation: as stressed by K. Weick (1982), loose coupling allows for important transformation to happen in one part of the system without disturbing the other parts, but at the same time it impedes the diffusion of change from one part to another. What is then left to leadership in such organisations? A lot, providing that leaders accept to act in ways that would look unusual in other organisations. Relying on some of the conclusions of S. Mignot-Gérard in her forthcoming thesis on French universities, three strategies seem rather efficient to manage change for a presidential team.

#### a) Have a Project and Stick to it

What I call “project” here is not the “rationally elaborated plan consistent with well defined goals” denounced by J. March (1976) but refers to setting a direction, focusing on some orientations, providing a certain vision<sup>10</sup> and giving an idea of the missions the university should focus on. The project itself may be centred on a specific domain or on a rather concrete application but it is always presented within a broader rhetoric arguing that such an evolution is inevitable, that everything pushes in this direction, that it is a priority for the future, etc. S. Mignot-Gérard furthermore observed that academic leaders who manage change not only have a project aimed in a clear direction but also keep it wide enough to preserve a sense of community. They avoid excluding and sanctioning but try to bring together and find ways to convince those who are opposed. Such projects then work like narratives that academic leaders repeat each time an opportunity is given to them. Repetition of the same visions, the same arguments, the same interpretations play a fundamental role. Keeping to them finally produces long term effects

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<sup>10</sup> It is therefore closer to the conception of leadership put forward by I. Bleiklie (2004) when he applies P. Selznick’s (1958) conclusions to universities.

and may provide a collective framework enhancing cooperation more efficiently than formal structures.

### **b) Facilitate and Incite and then Reframe, rather than Impose**

In universities giving orders and imposing decisions happen to be more unproductive than anywhere else. First because the weakness of the hierarchical lines (due to loose coupling) alters the diffusion of directives. Second because the efficiency of universities relies on the capacity for innovation at the bottom level. And third, because it generates resistance from the “defensive territories”. Therefore the management of change not so much relies on decisions from the top than on the selective promotion of actions coming from the base. It requires a lot of attention to initiatives, demands and projects expressed at the bottom level, incentives for those initiatives to develop, a capacity to negotiate and reword or reframe the demands in a way compatible with the global project of the university.

### **c) Prefer Formal to Academic Criteria**

An important issue for leaders is to succeed in having influence on the protective territories defined by the formal structures and rules without provoking defensive solidarities. Introducing criteria as disconnected as possible from academic norms and automatic often appears to be a way to avoid resistance and epistemic argumentation. It is for instance easier to find an agreement on the fact that classes with less than six students should not be continued than on assessing that this or that curriculum is not acceptable. Academic leaders may have an important role in developing such criteria and in diffusing them. It can be a way for them to implement their global project and to implement it into more concrete actions and decisions. As shown through these few examples, the exercise of leadership in universities requires adapting to the specificities of academic work and finding adequate instruments and style rather than “simply” transferring managerial tools. In other ways transforming universities into organisations is possible if at the same time one creates appropriate ways to do it.

## **Conclusion**

Our main question at the beginning of this paper was: Are universities specific organisations? My answer is “Yes”. I argued that it is linked to

the characteristics of teaching and research activities but also that this explains the limited effects of the recent reforms aimed at constructing universities into organisations by imposing non academic models on them. Such a conclusion is not intended to disqualify the introduction of managerial tools and practices within universities. It simply stresses that the specificity of universities should not be ignored and that change should build on their specificities. Rather than being considered as obstacles for change and rather than fighting against them, they should be used as strengths and as resources.

At a less pragmatic level this lessens the potential influence of the global model of organising that developed within the last decades. It is most of the time absorbed by the national characteristics of each university system: the twenty years of converging national reforms experienced by the European higher education systems sometimes produced radical changes but they were never paradigmatic (Hall 1993): they led to evolutions rather than to “revolution”, so that the new solutions and tools were aggregated to those which existed and did not replace them (Musselin 2005b and 2005c). As a result, despite convergences in the objectives and rationales of the reforms, they often increased the scope of divergences among those countries.<sup>11</sup> The organizational characteristics of universities furthermore create an obstacle to the transformation of the institutional environments into concrete practices. Increasing loose coupling between the overarching global model for higher education and the universities seems rather plausible in the near future.

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<sup>11</sup> Just to take an example: the distance between the French and the English higher education systems is bigger today than by the end of the seventies.



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**Part II:**  
**The Governance of Universities.**  
**Between State Regulations**  
**and Transnational Policy-Making**



# **State Models, Policy Networks, and Higher Education Policy. Policy Change and Stability in Dutch and English Higher Education**

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HENNO C. THEISENS/JÜRGEN ENDERS

## **Introduction**

In many Western European countries, the 1980s and 1990s provided interesting times for higher education. It was a period of change in different areas both inside and outside the higher education sector. All developed countries have experienced large growth in terms of student numbers in their higher education systems. This implied a second development that the higher education budgets grew as well; spending on higher education in absolute terms has grown throughout the 1980s and 1990s in all OECD countries (Scott 1995, Boezerooy 1999, Kogan/Hanney 2000). These two major developments, which, by themselves, made higher education a more salient topic on the political agenda, have collided with a third and a fourth development. The third, is a change in economic paradigms, that has led governments to realise that large state budgets and high taxation may cause economic problems (Scharpf 1997, Hall 1992, 1993). This realisation has led to a policy of cutbacks on state budgets, including the relative budgets available for higher education. The fourth is the growing perception that higher education is important to realise economic objectives. These four developments have meant that higher education systems in most OECD countries faced the challenge of delivering more students, under increasing pressure to do so efficiently, in terms of costs, and effectively, in terms of quality and economic relevance (Williams 1997, Huisman/Theisens 2001, Enders 2002).



Different countries have, however, developed different policies in order to deal with these challenges facing their higher education systems. Our paper argues that overall characterisations of policy responses and approaches in higher education across countries have a tendency to neglect or to play down such national differences. Although it is possible to analyse general patterns in higher education policy – such as attempts to create a new mix between state and market (or quasi-market) regulation on the one hand and institutional and academic self-regulation on the other hand – such patterns may well overlay important national varieties.

More specifically, our paper argues that the political systems and policy networks operating in different countries help to explain why countries act to a different extent and in different ways to similar problems. The paper is based on a major study analysing policy change in Dutch and English higher education from 1980 until 1995 (Theisen 2004). Building on the work of Lijphart (1984, 1999), we start with his distinction between majoritarian and consensus democracies as ideal types of the formal institutions of the state. One of the weaknesses of this approach is its sole focus on these institutions neglecting to a large extent the importance of characteristics of the policy sector at stake. The higher education sector with its two-tier structure of traditional universities and the (non-university) higher professional education sector provides in both countries an interesting opportunity to study the importance of such differences. They open up the opportunity to study interactions between the formal institutions of the state, the characteristics of the policy sector and the higher education institutions. The concept of policy networks is central here because we assume that state models and types of higher education institutions shape the policy networks that affect in turn policy change. As regards change and stability in policies we looked in both countries more in-depth on quality assurance systems, funding systems and policies to strengthen the links between industry and higher education. In other words two questions are central in this paper:

- Does the interaction between different state models and types of higher education institutions give rise to different policy networks?  
And:
- Can differences in the extent of policy change be explained through differences in the policy networks in which such policies are generated?

## State Models, Policy Networks and Policy Change: Concepts and Expectations

### State Models and Policy Networks

The point of departure of this paper is the work of Lijphart (1984, 1999) whose analysis rests on the idea that all democracies deal with a fundamental problem. Democratic states are, literally, states in which ‘the people rule’ from the Greek ‘*demos kratein*’. The problem is that ‘the people’ is not a unified actor, but a population made out of potentially millions of people all with differing interests and perceptions. It should come as no surprise therefore that ‘the people’ often do not agree on political issues. The question then becomes: “In what way should a democratic decision-making process be organised to come to an agreement if opinions clash?” According to Lijphart there are two fundamentally different approaches. Either the majority of the people decides or as many people as possible are included in the process. The majoritarian model is a model in which government power is highly centralised, based on clear majority in Parliament and institutionally (at least) autonomous from interest groups in society; interest groups that are engaged in open competition amongst each other (i.e. pluralistic). The consensus model is characterised by a multiparty system, by coalition governments and by intensive, institutionalised interactions between government and society (i.e. corporatistic).

Further on, the argument is made that policy change must also be understood in the context of a policy network (Atkinson/Coleman 1992, Kickert 1997, Klijn/Koppenjan 2000, Marsh 1998, Rhodes 1997). The basic assumption of the policy network, as a framework for studying the policy process, is “that policy is made in complex interaction processes between a large number of actors which takes place within networks of independent actors” (Klijn/Koppenjan 2000: 139). The actors involved in the policy process are mutually dependent because they need each other’s resources. In the case of higher education policy making for example, higher education institutions are dependent on state resources in terms of funding and regulation. At the same time, the state depends on higher education institutions for information and their capacity to implement policies. Therefore, in policy networks co-operation is a necessity to achieve satisfying outcomes. This does not imply that there are no conflicts within these networks, there is a diversity of interests and objectives that at times may clash.

Notwithstanding the complex dynamics of policy making in policy networks, the concept of a network also implies a certain structure that

underlies the interactions between actors (Rhodes 1997). In our case, a policy network is not only shaped by the state model of the state in which the policy network is located, but also by the types of higher education institutions (universities and institutions of higher professional education) that are operating in the network. Summing up the differences between universities and institutions of higher professional education three organisational differences emerge. First, universities are more autonomous vis-à-vis their environment. Second, inside universities, academics have more autonomy than teachers have in institutions of higher professional education. Third, in universities de-central chairs remain very powerful, leading to a more de-centralised organisational structure. In the context of this paper the question is what these differences mean for the policy process and the implementation of policies inside universities and institutions for higher professional education.

The classification of networks in this study is thus based on the core concepts of the state model and types of higher education institutions – the idea being that the interaction between these two concepts leads to four different types of policy networks. Each of these networks has its own characteristics leading to particular dynamics within the network.

Each of the four networks consists of three layers, or put alternatively, three interlocking networks. First, the ‘state network’, within which the cabinet, the Parliament and the ministry are defined as actors for the purpose of this study. Secondly, connecting state and higher education institutions, the ‘sector network’ that consists of buffer organisations, interest and lobby groups. This network can, depending on the state model be pluralistic or corporatistic. Third, the ‘higher education institution network’ within the higher education institutions: consisting of an executive board and a number of basic units. These three networks are interconnected. Actors within the state and higher education institutions can have various relationships with actors outside these entities. In order to reduce the number of relationships that are examined, the state and higher education institutions are examined as though they were single actors, within the second network. This leads to a two by two matrix with four cells that contain the essence of each network. The content of the matrix is elaborated on below.

Table 1: Four different policy networks

	<b>Majoritarian</b>	<b>Consensus</b>
<b>University</b>	<i>State network</i> <ul style="list-style-type: none"> <li>Central position of cabinet</li> </ul> <i>Sector network</i> <ul style="list-style-type: none"> <li>Pluralistic</li> <li>Autonomous position of higher education institutions</li> </ul> <i>HEI network</i> <ul style="list-style-type: none"> <li>Autonomous position of de-centralised units of the higher education institutions</li> </ul>	<i>State network</i> <ul style="list-style-type: none"> <li>Central position of Parliament and intermediary organisations</li> </ul> <i>Sector network</i> <ul style="list-style-type: none"> <li>Corporatistic</li> <li>Autonomous position of higher education institutions</li> </ul> <i>HEI network</i> <ul style="list-style-type: none"> <li>Autonomous position of de-centralised units of the higher education institutions</li> </ul>
<b>Higher Professional Education</b>	<i>State network</i> <ul style="list-style-type: none"> <li>Central position of cabinet</li> </ul> <i>Sector Network</i> <ul style="list-style-type: none"> <li>Corporatistic</li> <li>State dominant over higher education institutions</li> </ul> <i>HEI network</i> <ul style="list-style-type: none"> <li>Centralised higher education institutions</li> </ul>	<i>State network</i> <ul style="list-style-type: none"> <li>Central position of Parliament and intermediary organisations</li> </ul> <i>Sector network</i> <ul style="list-style-type: none"> <li>Corporatistic</li> <li>State dominant over higher education institutions</li> </ul> <i>HEI network</i> <ul style="list-style-type: none"> <li>Centralised higher education institutions</li> </ul>

*Note: This table presents a short overview of the types of indicators for different policy networks, these indicators, for matters of presentation, are formulated in absolute terms. They are in fact, of course, relative.*

## The Influence of Policy Networks on Policy Change

Having conceptualised these four policy networks the question is what their effects on policy change are.

In the *university majoritarian policy network*, policy change depends critically on the role the state wishes to play. If the state decides to speedily produce policies, it can do so for mainly two reasons. The first reason is that the (pluralistic) policy network is loosely connected and the state can isolate itself from the (often time consuming) interference of intermediate organisations. The second reason is that the cabinet plays a central role in the network and is able to push through the policy changes it prefers. The autonomous position of the organisations in the policy network may, however, deter the state from interfering with the higher education institutions through policies too much. In the *higher*

*professional education-majoritarian policy network* the same holds true, but there is less of a deterring effect of the autonomous position of higher education institutions in the policy sector.

In the *university-consensus policy network* the state is involved in a corporatistic and therefore tightly connected policy network in which intermediary organisations play a central role. Policy change is always negotiated between many players in the networks. This limits the speed with which policy changes can be created. This is especially true in the situation of the university policy network in which the autonomous position of the universities requires the agreement of the universities with policy changes. In the *higher professional education-consensus policy network*, the same holds true as above, but the dominant position of the state vis-à-vis the institutions of higher professional education means that the state can forge policy changes easier. Summarising these expectations, results in the following hypotheses:

- In consensus systems more policy changes are expected in the professional higher education sector than in the university sector.
- In majoritarian systems more policy changes are expected in the professional higher education sector than in the university sector.
- In university sectors more policy changes are expected in majoritarian systems than in consensus systems.
- In higher professional education sectors more policy changes are expected in majoritarian systems than in consensus systems.

## Research Design

The method employed in this study to test the hypotheses is a qualitative comparison of two countries that are comparable in many ways but differ as much as possible in their state models. As case studies, England and the Netherlands are selected, for the reason that in Lijphart's work the UK clearly is an example of the majoritarian model of democracy whereas the Netherlands is a typical example of the consensus model.<sup>1</sup> In both countries three types of actors were targeted at the level of the

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1 Although Lijphart looked at the entire UK, in this study England was looked at. The most important reason is that as part of the devolution process in the UK, in each constituting Kingdom (England, Scotland, Wales and Northern Ireland) funding committees were created that quickly developed different policies. Therefore, including the UK as a whole in the study would be like performing a comparative study within a comparative study.

policy sector: the State (minister/department and Parliament), the funding organisations and the higher education interest groups. Much higher education literature is available on these subjects. Therefore an important part of the reconstruction of policy networks and policy change in this study takes the form of a secondary analysis of the existing literature. In addition, key policy documents from the English and Dutch ministries of education have been analysed.<sup>2</sup>

The interest of this study is with changes that came to the forefront in the early-1980s when massification and the necessity of budget cuts began to have a combined impact on higher education systems. The central thesis in this study is that in both countries this combined impact led to changes in policy as well as in the structure and behaviour of higher education institutions. The early-1980s are therefore the starting point of this research project.

To choose where, in time, this study should stop was slightly more difficult. The choice was made to study changes until 1995. The reason to end in 1995 is pragmatic. In the Netherlands in 1997 a major new law came into being that changed the administrative structure of universities. While earlier changes inside these institutions were at least partly a result of choices within the institution, the introduction of this new law meant that in all universities an externally imposed new structure was implemented. To prevent this caesura in developments from interfering with the rest of the data, the data collection is stopped at that point.

The time period chosen, from 1980 to 1995, opens a 'window of observation' for the kind of changes this study focuses upon within a time frame that allows for these changes to emerge, develop and be implemented. The time period also poses no great problem in terms of comparability between the Netherlands and England. The policy changes in both countries were the result of similar economic problems and similar political ideologies. Broad similarities remained the case in both countries for most of the period 1980 to 1995.

Politically in both countries governments with a right wing agenda (the conservatives with Thatcher as PM and the CDA with Lubbers as PM) dominated most of the period. Economically the situation of England and the Netherlands was also comparable. Both economies were confronted with similar economical problems in the early-1980s (see chapter one) and both sought solutions in similar directions. Both countries reversed the downward economic trend in the early-1990s.

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2 The original study included a study of actual changes inside universities next to policy changes, the analysis of changes inside universities were mostly based on interviews with key actors.

## Measuring Policy Change

Clearly of particular importance for this study is the measuring of policy change. Unfortunately, it can be deduced from the number of rivalling methods that policy change is difficult to conceptualise let alone to measure. Most of the current conceptualisations (see, for example, Pressman/Wildavsky 1973, Lindblom 1959, 1979, Cerych/Sabatier 1986, Rhodes 1997, Hall 1992) distinguish between changes on different levels. These levels range from fundamental change in the underlying values and worldviews of a policy, to small changes in the policy instruments that do not change the objectives of a policy.

This study focuses on four areas of policy change using a fairly pragmatic approach to policy change. First, the shift from funding inputs and processes to funding based on outputs. Second, the way in which quality assurance systems operate and the extent to which they externally drive higher education institution's performance. Third, the autonomy of institutions to decide on which study programmes they wish to offer. Finally, the introduction of policies intended to stimulate higher education institutions to take into account societal demands, in their research and teaching. For each of these areas a number of indicators have been created like "Have finance systems moved from earmarked funding to lump-sum funding?" or "Have there been policies with the intention to strengthen the relationship between higher education institutions and actors in the environment of these institutions?"

The more changes in these policy-areas (as identified by the indicators) by the governments of England and the Netherlands (i.e. the greater the number of policy initiatives and the further reaching these policies), the more policy change in a system.

## Outcomes of the Study

### Policy Networks

The study found that four networks could be distinguished that to a large extent corresponded with the theoretical expectations. At the same time, the networks turned out to be far from static but are themselves due to policy change.

The *policy network of the university sector in England* in the early eighties was characterised by a central position of the cabinet within the state (Downing 1993). In between the state and the institutions, the University Grants Committee (UGC) acted as buffer, with the representing organisation for universities, the Committee of Vice Chancellors and

organisation for universities, the Committee of Vice Chancellors and Principals (CVCP) closely linked to it. The position of the UGC seriously limited the Cabinet's influence on the policy process and universities were very autonomous, both financially and in terms of content of teaching and research. Internally universities were very de-centralised, with a lot of autonomy for departments. By 1995, the shape of this network had changed dramatically. The replacement of the UGC by the Higher Education Funding Council (HEFCE) meant a much stronger grip of the state over the universities. As the position of the CVCP was linked to that of the UGC, it also weakened. In its place, lobby groups, like the Russell group, are lobbying for universities with comparable profiles and interests (Salter/Tapper 1994, Williams 1997, Kogan/Hanney 2000).

The *policy network of the university sector in the Netherlands* in the 1980s was confronted with a much less centralised state than the English university sector. Policies are the result of interaction between ministry, parliament and intermediary groups. In these interactions the Academic Council, as a legally institutionalised organisation with representatives of university and state, played an important role. Universities were very autonomous in terms of the content of teaching and research, but in terms of finance they were more restricted as they received, de facto, earmarked budgets from the state. Internally universities were very de-centralised. Up to 1995, several changes have taken place in this network. The Academic Council was replaced with the Association of Dutch Universities (VSNU), an organisation that represented the interests of universities, but was not legally institutionalised like the Academic Council. In terms of finance, universities got more independence from the state, as money was shifted towards a lump sum funding system (Huisman 2003, Huisman/Theisens 2001, Toonen 2002).

The *policy network of the higher professional education sector in England* in the early 1980s was characterised by a domination of the polytechnics by local authorities. Nationally, the cabinet played an important role through the Council for National Academic Awards (CNAA) and the National Advisory Board (NAB). The polytechnics were only represented by the Committee of Directors of Polytechnics (CDP), a rather weak interest group. Unlike the universities, the institutions of higher professional education were tightly controlled by the local authorities in financial terms, though in terms of the content of teaching they were autonomous. The Polytechnics in this period were small and centralised. Up to 1995, many things changed in this policy network. After 1988, polytechnics were removed from the local authorities and in 1992 placed under the HEFCE. At the same time they were rela-



belled universities, which meant that nominally they had the same position as universities, gaining in terms of financial autonomy as well as the right to validate their own courses. It also meant that they were represented by the same CVCP at the national level. These new universities were much larger than the Polytechnics due to mergers and massification and they remained very centralised compared to universities (Kogan/Hanney 2000, Pratt 1997).

*The policy network of the higher professional education sector in the Netherlands* was at the beginning of the 1980s characterised by policies that, at state level, were the result of interaction between ministry, parliament and intermediary groups. The latter group, most importantly the HBO council, was still rather weak in the early eighties. The HBOs (the institutions had very little financial autonomy; their bills and wages were directly paid for by the state; their autonomy lay in the content of teaching. The HBOs were very small, centralised schools. In the period leading up to 1995, several important developments took place. One was that the HBO council was growing in strength as a consequence of mergers in the sector (Goedegebuure 1992). A second development was the greater financial autonomy of the HBOs. Like the universities, their funding switched to lump sum funding. Just like their English counterparts, the HBOs grew massively while remaining more centralised than universities at the same time (Deetman 1984).

## Policy Change

The results of our study on policy change in higher education in England and the Netherlands are summarised in the table on the next page. The table shows an interesting array of developments.

First, from a *funding*-standpoint both countries in both sectors moved in the same direction, giving universities and higher professional education institutions, (but especially the latter) much more freedom over the way in which they spent their budgets. This was an important development as it freed the higher education institutions to act as free standing institutions and not as a de-concentrated part of the state bureaucracy. On the one hand, in the Netherlands developments in terms of funding in both sectors went further than in the UK; they provide higher education institutions with a mixture of input and output funding giving higher education institutions incentives to work efficiently. On the other hand the attempts in England to create a managed market and to make universities compete for scarce resources were an alternative interpretation of what a market in higher education could mean (Groot/van de Poel 1993, Jongbloed 1999, Williams 1997).

Second, in terms of *quality control* the situation radically changed, especially for the universities and especially in England. Quality control in universities in England, just like their Dutch counterparts, was based on an informal system of peer review within the higher education institution and especially within the discipline. By 1995, universities in England were confronted with a state controlled quality assessment system that scored teaching and made the results public (Kogan/Hanney 2000). In the Netherlands the informal system was formalised and a meta-evaluation by the Inspection was added (OC&W 1985). In the same period Dutch HBOs moved from a situation of relatively tight control by Government and the Inspection to a system comparable to that of the universities in 1995 (OC&W 1985). Polytechnics in England moved from regular institutional reviews to the same situation as all English universities when they were granted university status (Pratt 1997).

Third, in terms of the rules and regulations for setting up *new study programmes*, the situation changed much more for higher professional education institutions than for universities. In the Netherlands HBOs are now given the possibility to develop new programmes by themselves, granted, those programmes need to be validated by the Minister after an advice of the ACO. In England the polytechnics are now free to validate their own study programmes although like English universities they work with external review committees. Also many of the procedures that were established by the CNAA are still operating because institutions stick to them (Pratt 1997). In English universities the situation with respect to programme validation has remained more or less the same in the sense that universities were and still are in charge of programme validation. However, the procedures followed in 1995 are much more formalised, in response to demands from the quality assessment committee of HEFCE (Kogan/Hanney 2000). In the Netherlands too, the situation for universities has changed little. The most important shift was the abolishment of the Academic Council and the establishment of the ACO. While the Academic Council consisted mainly of representatives from the universities, the ACO is a much more independent committee. This has meant on the one hand that universities were less involved in the validation procedure but on the other hand that the validation procedure is became less 'political' with an independent committee judging applications on more or less objective criteria (Huisman/Jenniskens 1994, Huisman/Theisens 2001).

Finally on the issue of *higher education-industry relationships* there is an enormous difference between England and the Netherlands. In England universities and polytechnics have been confronted with many policy initiatives that sought to strengthen this relationship. Over the

years there have been a number of government programmes that use monetary incentives to encourage universities to become more socially relevant. The structure of these programmes is quite similar. Funds are made available on a competitive basis for specific aims. The ‘Enterprise in Higher Education’ programme (EHE) was, for example, initiated by the Department of Employment with the objective of changing the teaching priorities of higher education institutions. Universities and polytechnics could bid for funding in collaboration with industrial and commercial partners. The teaching initiatives had to provide students with ‘enterprise skills’. In the Netherlands such policies did not emerge (Sommerlad 1993, Whiteley 1995).

*Table 2: Summary of Policy Change in England and the Netherlands*

*a) Universities*

	Netherlands	England
<b>Funding policies</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• State</li> <li>• Lump-sum, but <i>de facto</i> earmarked</li> <li>• Based on input</li> </ul>	<ul style="list-style-type: none"> <li>• University Grants Committee</li> <li>• Lump-sum</li> <li>• Increasing central planning linked to funding</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• State</li> <li>• Lump-sum</li> <li>• Based on mixture of input and output</li> </ul>	<ul style="list-style-type: none"> <li>• HEFCE (quango)</li> <li>• Lump-sum</li> <li>• Based on input</li> <li>• Managed market (failed)</li> </ul>
<b>Quality systems</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• Academics</li> <li>• Informal</li> <li>• Peer review</li> </ul>	<ul style="list-style-type: none"> <li>• Academics</li> <li>• Informal</li> <li>• Peer review</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• VSNU</li> <li>• Formalised</li> <li>• Peer review</li> </ul>	<ul style="list-style-type: none"> <li>• HEFCE (quality assurance committee) (quango)</li> <li>• Formal</li> <li>• External review</li> </ul>
<b>Regulation with regard to new study programmes</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• Minister after advice Academic and Education Councils</li> <li>• Quality</li> </ul>	<ul style="list-style-type: none"> <li>• Internal validation</li> <li>• Quality</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• ACO (quango)</li> <li>• Macro efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Internal validation</li> <li>• Quality</li> </ul>
<b>Policies to stimulate higher education-industry relationships</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• State</li> <li>• Several policies</li> </ul>

*b) Institutions of Higher Professional Education*

	Netherlands	England
<b>Funding policies</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• State</li> <li>• Direct pay of personnel and bills, small subsidies for extra activities</li> <li>• Based on input</li> </ul>	<ul style="list-style-type: none"> <li>• Local Authority</li> <li>• Direct pay of personnel and bills, small subsidies for extra activities</li> <li>• Based on input</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• State</li> <li>• Lump-sum</li> <li>• Based on mixture of input and output</li> </ul>	<ul style="list-style-type: none"> <li>• HEFCE (quango)</li> <li>• Lump-sum</li> <li>• Based on input</li> <li>• Managed market (succeeded)</li> </ul>
<b>Quality systems</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• Inspection</li> <li>• Formal</li> <li>• External review</li> </ul>	<ul style="list-style-type: none"> <li>• CNA (quango)</li> <li>• Formal</li> <li>• Institutional review</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• HBO Council</li> <li>• Formalised</li> <li>• Peer review</li> </ul>	<ul style="list-style-type: none"> <li>• HEFCE (quality assurance committee) (quango)</li> <li>• Formal</li> <li>• External review</li> </ul>
<b>Regulation with regard to new study programmes</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• Minister</li> <li>• Quality</li> </ul>	<ul style="list-style-type: none"> <li>• CNA (quango)</li> <li>• Quality</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• ACO (quango)</li> <li>• Macro efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Internal validation</li> <li>• Quality</li> </ul>
<b>Policies to stimulate higher education-industry relationships</b>		
<b>1980</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>1995</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• State</li> <li>• Several policies</li> </ul>

**The Influence of Policy Networks on Policy Change**

Reviewing a period of fifteen years with a focus on different aspects of higher education policy reveals the following evidence for the four hypotheses that we formulated above on the influence of policy networks on policy change:

- In consensus systems more policy changes are expected in the higher professional education sector than in the university sector.

When looking at funding policies in the Netherlands more dramatic policy-shifts can be observed in the higher professional education policy-network compared to the university network. These changes, however, had more to do with the different positions from which both types of higher education institutions departed in the early-1980s than with the level of centralisation in the policy-network. The enormous growth in

the higher professional education sector demanded a different funding model.

In terms of quality assurance again a mixed picture emerges. The most dramatic changes here have been in the university sector. Institutions of higher professional education in the Netherlands were under firm control by the state or state related bodies. This strict control was slightly relaxed as these institutions developed into more free standing higher education institutions. The universities, however, saw their traditional autonomy with respect to quality and its definitions infringed upon through state interference. Finally, with regard to the introduction of new study programmes, higher professional education institutions during the 1980s and early-1990s received the same degree-awarding powers as universities.

- In majoritarian systems more policy changes are expected in the higher professional education sector than in the university sector.

Clearly, in England, polytechnics have witnessed more dramatic changes than universities in terms of their place in the higher education policy sector and their organisational structure and size. However, focussing on the three areas singled out above there is not so much difference in terms of policies. For quality assurance, the changes for universities were more dramatic as they were confronted by a government with a centrally organised quality assessment system, much against their will. Polytechnics by contrast had always been assessed by the CNA. For funding and degree awarding powers changes for polytechnics have been more dramatic, but they have been in the direction of bringing polytechnics closer to a much desired university status. For the polytechnics this has meant much more autonomy, most importantly because they were freed from local authority interference. In contrast, universities had to deal with some reductions in their autonomy as a consequence of the creation of HEFCE and with the abolishment of the UGC they lost their main buffer organisation against the state.

- In university sectors more policy changes are expected in majoritarian systems than in consensus systems.

The university sector in England has indeed witnessed more change than the same sector in the Netherlands. Though the changes in funding models in the Netherlands has been shifted more (towards a mix of output and input funding) this is surpassed by the radical budget cuts of the early-1980s, the abolishment of the UGC and its replacement with

HEFCE. The quality assessment system introduced in England again meant more change than the Dutch case, where a quality assurance system was introduced. In terms of the regulations for the establishment of new study programmes more change was established in the Netherlands, where the ACO replaced the function of the Academic Council, in England a test on macro efficiency was never introduced. Finally in terms of university-industry relationships the state introduced several programmes to make higher education more open to the needs of industry in England, while no such programmes were developed in the Netherlands.

- In higher professional education sectors more policy changes are expected in majoritarian systems than in consensus systems.

This hypothesis too, is supported by the available evidence. The higher professional education sector in both countries saw dramatic changes during the 1980s and early-1990s but the policy changes were greater in England. The introduction of a managed market, of a quality assessment system and the policies to strengthen the ties between higher professional education institutions in England are all examples of policy changes that are unequalled in the Netherlands.

## **Discussion and Conclusions**

This study started by breaking down the policy changes from the early-1980s to the mid-1990s in different areas of higher education policy: changing allocation models, the introduction of quality assurance systems, the regulation regarding new study programmes and the stimulation of external relationships of higher education institutions. When reviewing these changes, we are confronted with national and sectoral variety rather than with policy convergence. That is, for individual countries, historical background, state models, and policy networks are factors that act against regulatory convergence of higher education systems. This is not to deny commonalities across countries and sectors. But in moving away from broader or more abstract classifications of shifts in governance, we are able to point, both, to considerable variations between and within countries as well as to more mixed or nested modes of co-ordination in higher education.

## Short Term versus Long Term Policy Change

This study found mixed results with regard to policy changes in the majority and consensus state models, for both the university and the higher professional education sector. In the *short term*, the majority state-model has given the English government the opportunity to change policies quickly relative to their Dutch counterparts. In the short term the English system, seems capable of sudden and dramatic changes in its policies. A host of examples can be given, including the 17 % budget cuts for the entire university sector; the abolishment of UGC and installation of HEFCE; the introduction of a ‘managed market’; the inclusion of polytechnics in the university system; the creation of Quality Assessment Committees (see Salter/Tapper 1994 or Hanney/Kogan 2000). These are all examples of quickly created policies with which higher education institutions were confronted without much consultation. In the Dutch system there were no developments comparable to these swift changes in England (see Huisman 2003 or Toonen 2002).

The *longer term* perspective paints a different picture. University funding, for example, shows that the pace of policy change in consensus systems may be slow, but that the outcomes over longer periods can be substantial. The move towards output-oriented funding was made slowly but steadily in the Netherlands, this is not the case in England. This slow but steady change is even more surprising if one considers the fact that there have been coalitions of various parties during this period with different ministers of education. The remarkable stability in the direction of policy change in Dutch policy making during this period suggest that once a course is set out and all actors in the policy sector are more or less committed and aware of the underlying ideas of the course, it might result in stability.

## Centralisation versus De-Centralisation

Some of the policy changes found in this study suggest an underlying dimension, namely a much stronger drive towards centralisation in England and a drive towards decentralisation in the Netherlands (interestingly both often formulated in the vocabulary of the market). All in all, English government has increased state control over the universities, whereas in the Netherlands government withdraw to some extent from tight control and institutional autonomy has been increased.

The introduction of quality assurance systems has, for example, been much more radical in England than in the Netherlands. When looking at the university sector both countries moved from informal peer review to

nationally organised systems. But there was one important difference: in England a change was made to a system of state control, whereas in the Netherlands the state restricted itself to meta-evaluation (through the Inspectorate) of a system that was controlled by the academics within the disciplines. This move towards centralisation in the area of quality assessment in England was not self-evident. The universities were developing their own system of quality assurance more or less similar to such developments in the Dutch system. English government simply overturned these developments and introduced a system of its own.

In the case of higher education funding, the Dutch government gave more autonomy in financial terms to the universities. Conversely for English universities, the creation of HEFCE, a council directly linked to the state meant less autonomy for the institutions compared to an earlier situation in which the buffer organisation UGC allocated funds.

This trend of growing state control over higher education in England can also be found in the types of policies developed to strengthen the relationships between the universities and industry. Projects like the EHE programme stipulated what universities had to do in order to receive substantial sums of funding. In the tight financial situation of many universities after the 1983 budget cuts, this again meant considerable influence of the government over the universities. The Dutch government developed no such policies.

## Differences in Points of Departure

Many of the policy changes meant a much greater degree of freedom for the higher professional education institutions in both countries. For universities they often had other connotations. Universities were confronted with a state that wanted to shift (in the Netherlands) or increase (in England) its grip. The important point being that policy change is not absolute but related to the positions of the actors that are the subjects and/or objects of change. In this case, similar changes have meant different things to the university and the higher professional education sector. This is because both sectors had a very different point of departure in the early-1980s.

In the Dutch HBO sector, we observe the development of higher professional education institutions into free standing organisations, more or less on a par with traditional universities. Developments in the policy network meant more autonomy for institutions, which was welcomed by them. Developments in the university network meant a different type of steering in which a shift in state steering and more autonomy were interwoven and only partially welcomed by the institutions.



In England too polytechnics saw more dramatic changes than universities in terms of their place in the higher education policy sector and their organisational structure and size. Like in the Dutch case they have been in the direction of bringing them closer to a (much wanted) university status. By contrast, English universities have had to deal with a reduction in their autonomy. The creation of HEFCE and the abolishment of the UGC meant for example that universities lost their main buffer organisation against the state.

### **Causality: On Policy Networks and Policy Change**

One of the underlying ideas of this study has been to combine the strong points of concepts of state models (their conceptual rigorousness and their possibilities for comparative research) with the strong points of concepts of policy networks (their usefulness as a tool in precisely describing power and other relationships both inside and outside the state). The analysis of the networks in this study has demonstrated that the state model has a definite impact on the shape of the networks. The study has also shown that networks and their different shapes are significant when it comes to the creation and implementation of policy. This suggests that a combination of both concepts is a useful way of studying the policy process.

At the same time, a good point can be made that there is interaction between policy change and network change and that the change of policy networks may form part and parcel of a process towards policy change. Policy change in both sectors in England and the corresponding government role in these sectors led, for example, to a more centralised network. The state was much more involved in these networks, not because of the traditional shape of these networks, but because it saw a necessity to do so. In contrast, Dutch government withdrew to some extent from tight control while higher education institutions gained in importance. A result of these interventions was that the networks in both countries took their new shape.

This draws attention to possible shifts of what may be called governance by default to governance by design as far as policy networks are concerned. Governance by default would refer to a situation in which policy networks are the outcome of traditional constellations and possibly change due to the (unintended) consequences of the choice of policy instruments available at a certain point in time. Networks, in this case, are not a policy objective in their own right. In comparison, governance by design would refer to a situation in which policy networks and, more particularly, changes in their design, become a policy objective in and of

itself. Questions about how and by whom policies are made thus become a matter of more deliberate and reflexive policy choices that may or may not be linked to specific substantive policy goals.

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## **Diversity Matters: A Lesson from a Post-Communist Country**

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PEPKA BOYADJIEVA

### **1. Is Higher Education in Former Socialist Countries a Problem or an Opportunity for European Education?**

Following the discussion on European Union higher education policy in the past few years, van der Wende concludes that the European Commission has gradually expanded its political ambitions in the sphere of higher education and the goals set for it. “The achievement of those goals”, he continues, “may become difficult [...] considering the lack of direct policy instruments and may also be particularly challenged by the concurrent enlargement of the EU with 10 new countries in Central and Eastern Europe” (van der Wende 2003).

There is no doubt that the remarkable enlargement of the European Union to include countries which until recently functioned within a political and economic system with different values, poses a strong challenge for its future development. The essence of this challenge can be expressed by the following questions: Is higher education in former socialist countries a problem or an opportunity for the European education? Will the development of higher education in the former socialist countries be more similar to the development of education in other regions of the world (USA or Latin America<sup>1</sup>) than to higher education in the leading European countries?

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1 According to Tomusk the development of higher education in post state-socialist Eastern Europe “in many respects resembles more countries like Brazil rather than Germany or France” (Tomusk 2004: 10).

The present paper is an attempt to outline some recent trends in the development of higher education in one post-communist country – Bulgaria. Following the “velvet” revolution of 1989, higher education in the countries of the former Eastern block appeared to be in a unique and highly complex situation. It was confronted with the need to simultaneously go through two fundamental changes, both being essential transformations of the system rather than mere changes. The first change is related to the general social transformation of the countries from totalitarian regimes. It is a change which is not and cannot be a single act, as far as the functional principles of higher education institutions and the regulation of their relations with the state and society are concerned.

In the same period, the higher education systems in most countries around the world have transformed into arenas of major, profound and intensive innovations in response to globalization, internationalization and massive diffusion of higher education.<sup>2</sup> As far as Bulgarian higher education is concerned, the influence of these processes is reinforced by its strong desire to join the European Union.

## 2. Research Methodology

One of the most powerful theoretical approaches in recent years, offering a sociological explanation of institutional and organizational development, is neo-institutionalism.<sup>3</sup> Its main thesis is that “organizations are structured by phenomena in their environments and tend to become isomorphic with them” (Meyer/Rowan 1977: 346) and that adopting organizations under similar external pressures will become more (structural) similar through a processes of convergence. The sociological neo-institutional theory explores, in detail, the ways in which institutional environments ‘imprison’ organizations in ‘iron cages’ by means of dif-

2 For example, introducing policies that focused on the quality and performance of the institutions is regarded not only as a change in the system but also as a change of the system (Neave 1998).

3 There is a lack of coherence in the ways the different institutional approaches are labeled. Scott speaks of “early institutionalists”, “early institutional theory” and “neoinstitutional theory” (Scott 2001); Selznick and Stensaker designate the same developments as “old” and “new” institutionalism (Selznick 1996; Stensaker 2004); Stensaker – following Greenwood and Hinings (1996) – uses the term “neoinstitutionalism” for “the coming together of the old and new institutionalism” (Stensaker 2004: 35); Levy also speaks about “new institutionalism” when he refers to the works of DiMaggio, Powell and Meyer (Levy 2004). In the following analysis I will use Scott’s designations.

ferentiating three mechanisms of institutional isomorphic change – coercive, mimetic and normative (DiMaggio/Powell 1983). Placing the emphasis on organizations’ routine, repetitive and unreflective behavior, neo-institutionalism has undoubtedly contributed to uncovering the limitations to rational, technically functional organizational action and to understanding the nature of the processes of convergence and emulation of established institutions.

The main critiques of institutionalism (including the latest developments in neo-institutionalism) apply to its strong emphasis on the external determination of organizations and undervaluing of the meaning of their history, goals, interests and capability of rational action (Perrow 1986). In the sphere of higher education, empirical studies have emerged, which challenge or only partially support the argument that over time organizational change will result in convergence rather than divergence. It is especially important that these studies show the significant role of power holding actors and interests in the implementation of the various changes (Stensaker 2004: 29). A challenge to neo-institutionalism is also the large growth of private higher education institutions in many regions of the world. Diversity, rather than isomorphism, have become the leading trends in the development of the private sector in higher education (Levy 2004).

Wishing to take account of the findings of empirical studies as well as the new realities in the sphere of higher education (primarily in relation to the development of private higher education) some researchers argue for the need for “revised new institutionalism” (Levy 2004: 4) and for “the coming together of the old and the new institutionalism” (Stensaker 2004: 35). In both cases, as Levy clearly emphasizes, denouncing neo-institutionalism as “wrong”, “inapplicable”, “irrelevant” or “impoverished” is not the issue (Levy 2004: 3, 16), but rather an attempt to “re-assess and revise tenets” of neo-institutionalism and especially its emphasis on “isomorphism” (as in the case of Levy) or enrich it with ideas from early institutionalism (as in the case of Stensaker). It should be noted that authors following different institutional approaches question the existence of a sharp separation between them (Selznick 1996) and acknowledge some continuity between the different versions (DiMaggio/Powell 1991); they even claim that their ideas are not mutually exclusive (Stensaker 2004).<sup>4</sup>

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4 Based on the results of a study of the institutional changes in 6 higher education schools, Stensaker comes to the conclusion that different understandings of goals (goals as the outcome of power struggles and vested interests, thus a negotiated entity, and goals as a symbolic gesture to legitimate the organization towards the environment) “are not mutually exclu-

This paper argues that the institutional development of higher education in the countries of the former socialist block can provide additional evidence for justifying the need for and usefulness of mutual complementation and reassessment of the ideas of early institutional theory and neo-institutionalism. Such a research perspective would be richer and more heuristic because it would foster an understanding different aspects of institutional development, including those which are of secondary importance and, although not emerging as leading trends, outline real processes. It also could contribute to the understanding of both similarities and country peculiarities in the development of higher education systems and institutions.

I refer this perspective as open institutionalism. The attribute “open” means that early institutional theory and neo-institutionalism have different descriptive and explanatory powers for different problems and that they can be combined in various ways. The specificity of the subject of sociological investigation determines the specific “design” of the combination of ideas from different institutional approaches<sup>5</sup> Depending on the concrete research problems, different combinations would be possible – some with more “elements” from early institutional theory and others – closer to neo-institutionalism.

### **3. Institutional Models in Bulgarian Higher Education since 1989**

#### **3.1 Socio-Historical Context of the Institutional Changes in Higher Education**

The development of Bulgarian higher education in recent years can not be understood unless we take into account:

- the ideology behind the educational changes, the unique dissolution of the professional educational field in the wider social environment at the beginning of the social transition since 1989 and

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sive” (Stensaker 2004: 50). According to this author, legitimacy also “is a factor that may link old and new institutionalism”, as far as “both normative and cognitive processes are at play when an organization changes its identity” (Stensaker 2004: 210).

- 5 For instance, in order to explain organizational identity change Stensaker develops a specific theoretical framework combining “insights from old and the new institutionalism” (Stensaker 2004: 35-36).



- the specificities of the higher education system created during the totalitarian regime.

In the context of such a radical transition as the transition from a totalitarian society and entirely state-regulated economy to a democracy and market-oriented economy, the changes in the different professional fields are perceived not only from the viewpoint of this sphere alone but also from the perspective of their more general social meaning – as democratic or undemocratic, as defending or limiting the freedom of the individual. This diminishes awareness of the meaning and the role of a certain institutional change for the specific professional field as well as the potential difficulties of its implementation. An eloquent example of such a situation is the way the autonomy of Bulgarian higher education institutions was restored by legislation – an act which is very important for the understanding of the post-communist development of Bulgarian higher education. Instead of a principle regulating the relations between the state and certain institutions, in the period immediately after the “velvet” revolution university autonomy was perceived of as a challenge to the all-powerful socialist state since it created the conditions for freedom of thought and speech and thus set barriers to the authoritarian and totalitarian ambitions of the state authorities. For this reason the reintroduction of autonomy was viewed as a democratic political action, which supported the breakdown of the totalitarian social system.

As early as 1990 a special Academic Autonomy Act was adopted.<sup>6</sup> The very fact that the restoration of the autonomy of higher education institutions was perceived of as an expression of the democratization of Bulgarian society explains the speed and the manner of its legislative regulation, virtually without any discussion of the content of the law and without conceptualizing this legal regulation within the framework of the general situation in the professional field of higher education.

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6 Here is an impressive story of this most efficiently prepared law in Bulgarian educational practice. On 14 December, i.e. only a month after the beginning of social change, on the first day the National Assembly started work, a students' procession submitted an address to members of parliament demanding the autonomy of higher education schools. On 17 January a draft of the Academic Autonomy Law was published, and on 25 January it was unanimously approved by the National Assembly with no objections or additional proposals. The Academic Autonomy Act was adopted together with several other laws, which were defined by the official state newspaper “Rabotnichesko Delo” as “laws without which democracy is impossible” (Rabotnichesko Delo 1990). Among them, especially important was a law amending the Constitution, deleting items from Paragraph 1, which stipulated the leading role of the Bulgarian Communist Party in social life.

The Academic Autonomy Act adopted in 1990 undoubtedly had a positive impact on the development of higher education in Bulgaria. It created the foundation for the processes of diversification and real pluralism in the higher education system – new disciplines and institutes were opened, the first private higher education institutions were created, traditional old-fashioned teaching methods were discarded, the initiative and independence of both faculty and students were encouraged. At the same time, however, the academic community in Bulgaria either appeared to be unprepared to implement the advantages academic autonomy provided or, in some cases, hiding behind this principle, it initiated actions and changes which primarily served group or personal interests. Problems emerged due to the fact that the restoration of the university autonomy was not accompanied by the establishment of mechanisms for accountability and transparency in higher education, as well as mechanisms for the control and maintenance of quality standards.

Some of the numerous higher education schools set up on the basis of the Academic Autonomy Act failed provide the basic conditions for normal functioning – qualified faculty, libraries, suitable premises, not to mention computers or research facilities. There were cases when the title “university” was used simply as an attractive advertising label, behind which stood unclear motives, professional incompetence and lack of responsibility. In order to survive, such “universities” opened their doors widely, lowering the admission criteria and practically enrolling everyone who wished to be a student.<sup>7</sup> Such facts provided favorable conditions for the legislative changes implemented in 1995, this time in the direction of limiting university autonomy and expanding the role of the state in higher education. The so called Unified State Requirements, developed by the Ministry of Education and Science, were introduced for each academic discipline. By nature, they were not standards but curricula featuring obligatory academic courses. Quite a long time was needed until it was realized that such interference of the state in the educational process limits the possibility of improvement rather than guarantees higher quality of education. The Unified State Requirements were discarded in 2002.

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7 The way some Bulgarian higher education institutions operated in a way which seemed to justify the warnings voiced long ago by Humboldt and Schleiermacher, and later by Jaspers, that university autonomy has not only positive sides but also poses some dangers and that “freedom is endangered not only by the existence of the state but also by institutions themselves” when they “neglect mandatory self-criticism” and “develop guild interests” (Jaspers/Rossman 1961).

The second factor which should be taken into account in the analysis of the institutional development of Bulgarian higher education are the specificities of the education system inherited from the totalitarian regime. The network of higher education institutions developed in the totalitarian period included only state institutions and was characterized by significant institutional specialization and differentiation. In the years before the “velvet” revolution in Bulgaria there were 3 universities, 35 specialized higher education schools (8 of which in the military field), which had 133,184 students in total. This model of specialized higher education institutions emerged in the beginning of the 20<sup>th</sup> century, but was established as the dominant institutional model after the socialist revolution of 1944. From the very start of that regime the authorities implemented a radical institutional restructuring of higher education – despite the opposition of a big part of the academic community – by removing 89 research institutes from the structure of the only existing university at that time and transferring them to the Bulgarian Academy of Sciences and by the separation of several university faculties which were turned into higher education specialized schools – the Medical, Agricultural, Zoo-technical, Forestry, Religious and Economic Institutes. This model of specialized higher education schools was perceived as the most appropriate for the implementation of the political goals of the communist party. Its ideological ambitions to massively industrialize the country caused the establishment of a large number of specialized (primarily engineering) higher education schools. In 1989 about 40 % of the students in Bulgaria were educated in the 10 engineering higher education institutions.<sup>8</sup>

### **3.2 Facts and Trends in the Institutional Development of Bulgarian Higher Education since 1989**

In the past 15 years the development of the higher education institutional network in Bulgaria has been the result of the transformation and restructuring of the existing higher education schools and the emergence of new institutions. Today the higher education system includes universities, specialized higher education schools and colleges. There are 43 universities and specialized higher education schools (12 of which are universities); they offer Bachelor’s, Master’s and Doctoral degrees. There are 50 colleges, which provide training for the qualification of

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8 It is an impressive fact that at the end of the eighties 7,500 engineers graduated from higher education institutions of engineering each year, while in the most advanced industrial countries their number never exceeded 3,500 (Georgieva 2002: 17-18).

“specialist”. The private sector of higher education includes 4 universities, 3 specialized higher education schools and 9 independent colleges. Analysis in this paper is limited to the institutional development of universities and specialized higher education schools for the following reasons: a) the development of colleges in Bulgaria (the so called semi-higher education schools before 1989) has its own history and is worthy of being the subject of a separate investigation; b) 40 of the colleges are not independent, but function as a part of the universities; c) a relatively small number of students are educated in them, which in both state and private colleges is 8-10 % of the total number of students.

*Table 1: Universities and Specialized Higher Education Schools*

	1944/ 1945	1984/ 1985	1989/ 1990	1992/ 1993	1995/ 1996	1999/ 2000	2001/ 2002	2003/ 2004	2004/ 2005
State	8	38	38	37	36	37	37	35	36
Private	0	0	0	3	5	4	5	7	7
<b>Total</b>	<b>8</b>	<b>38</b>	<b>38</b>	<b>40</b>	<b>41</b>	<b>41</b>	<b>42</b>	<b>42</b>	<b>43</b>

*Source: National Statistics Institute (2005)*

The network of higher education schools is characterized by a prevailing number of small and medium-size institutions – 18 from the higher education schools educate less than 2,500 students, 8 educate between 2,500 and 500 students; 11 educate between 5,000 and 10,000 and 5 educate more than 10,000. The total share of the institutions educating up to 5,000 students is 63 %.

There has been a sharp increase in student enrollments since 1989. The expansion of the number of students reached its peak in 1999.<sup>9</sup>

*Table 2: Students in Higher Education Institutions\**

	1990/1991	1998/1999	2000/2001	2002/2003	2004/2005
State	156,536	218,209	205,138	187,363	186,632
Private	0	29,803	25,499	28,349	32,845
<b>Total</b>	<b>156,536</b>	<b>248,012</b>	<b>230,637</b>	<b>215,712</b>	<b>219,477</b>

\* *Bachelor's, Master's and Doctoral Academic Degrees*

<sup>9</sup> The reasons for this expansion and its “shape” – the distribution of students between different fields and institutions – are complex and their investigation is beyond the scope of this paper.

In view of the institutional characteristics of the higher education system, three significant changes have been implemented since 1989:

- development of the specialized higher education schools in the direction of incorporating the university model of higher education;
- emergence of the private sector in higher education;
- introduction of structural elements and practices transferred from other educational systems, such as the two-level model of higher education (Bachelor's and Master's degrees) and university quality assurance systems.

All three kinds of institutional changes are significant innovations in the higher education system existing before 1989, thus qualitatively changing its character. Their implementation is not simply an addition or expansion of the principles of the system but a rejection of basic rules and values which were followed for decades and their substitution with new ones. Therefore the legitimacy of the changes undertaken becomes a major factor for their success.

Within the institutional perspective, legitimacy is defined as an assumption "that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman in Scott 2001: 59). Legitimacy is a complex process, which has various dimensions and forms – cognitive, normative, regulative, and pragmatic (Scott 2001; Suspitsin 2004). The analysis of the three main institutional changes in Bulgarian higher education since 1989, highlighted above, is centered around normative legitimacy, i.e. around the ways in which the changes undergone by higher education institutions correlate and agree with the dominating social expectations, values and norms.

### 3.2.1 From Specialized Higher Education Schools to Universities – Legitimacy through Imitation

According to the neo institutionalism, in their desire to achieve legitimacy, organizations imitate already established and successful organizations, which generates increasing similarities, isomorphism and convergence between them. One of the three mechanisms through which institutional isomorphic change occurs is mimetic isomorphism. Mimetic isomorphism is a response to an environment which creates uncertainty (DiMaggio/Powell 1983: 150-151). The social environment, which emerged in Bulgaria in the first years since 1989, undoubtedly generated high uncertainty. The obvious need for radical changes in all social

spheres was accompanied by political instability and very slow economic reform at a high social price. Social hesitation emanating from the political and economic life found additional motivation in the sphere of education, due to the widely shared belief that during the totalitarian regime a well functioning education system was built which had made significant achievements. In this context, most higher education schools chose not to make reforms in the direction of asserting their individual profile, but rather in approximation and comparison to the institutional model assumed to be successful and socially desired. The university model exhibited by the oldest and most prestigious higher education institution – Sofia University – was unquestionably considered such a model. The university model attained additional attractiveness, due to the widely shared assumption that the university statute is in accordance with European traditions and would stimulate international cooperation between schools of higher education.

As already pointed out, the higher education system established during the totalitarian regime in Bulgaria included 3 universities and 35 specialized higher education institutions. The development of those 35 since 1989 followed the same direction, incorporating, both on the structural and symbolical level, the characteristic features of the university model. Gradual changes were accomplished to give these specialized schools of higher education the image of universities. For the academic community of the specialized higher education schools the changing of symbols proved to be especially important, so they invested much effort in renaming these schools into universities. National Assembly decisions granted them the title of universities and the right to be called so. In Bulgaria universities appeared which had students in only a few disciplines, mostly in the same field of knowledge. Today we have 12 complete universities, 13 specialized universities (among them there are 3 Technical Universities, University of Chemical Technology and Metallurgy, University of Mining and Geology, University of Economics, Agricultural University, Medical University, and even a University of Forestry) and 17 specialized higher education schools. Before 1989 20 % of the students were educated in universities now almost 46 % of the students are university educated.

The legal university status acquired by the specialized higher education schools was accompanied by some real changes taken from the university institutional model both on an organizational and educational level. The internal institutional structure of the schools of higher education was transformed analogously to those of the universities. New disciplines were introduced such as economics, law, management, business administration, marketing, computer sciences, social studies, etc. In a

number of cases, however, the changes accomplished gave them only the external appearance of universities. Behind the parading labels they continued to function (mainly due to a lack of qualified faculty) as specialized institutions offering strictly specialized education in the most old-fashioned disciplines and poor quality education in the newly established ones. Thus instead of remaining quality specialized higher education schools, they became poor quality universities.

The marked tendency in Bulgarian higher education towards renaming and restructuring specialized higher education schools into universities only confirms the argument that copying institutional models perceived as successful and prestigious is a real strategy of organizational change.

This tendency is also in line with the thesis of the supporters of the “Common World Educational Culture” model<sup>10</sup> that “the main expansions in higher education occur under the umbrella of the university per se, not in disparate narrow-gauge institutions” (Frank/Meyer 2005: 3). However, the Bulgarian experience shows that the legitimizing potential of copying of the university model is not unquestionable. When the copying of the model remains only external, it can have a de-legitimizing effect as well.<sup>11</sup>

### 3.2.2 Private Higher Education – Legitimacy through Differentiation

Undoubtedly one of the most significant changes in the institutional development of Bulgarian higher education since 1989 was the emergence of a private sector. Bulgaria lacks virtually any practical experience in this sphere. Not only during the totalitarian regime was there no functioning private higher education institution, but even in the period before the socialist revolution in 1944. In the time before 1944 private higher education had a very weak presence and did not generate particularly positive attitudes, neither among the academic community nor among the political elite and the general public.<sup>12</sup> The only existing private

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10 The phrase “Common World Education Culture” as a synthesis of the approach to education developed by John Meyer and his colleagues and students was introduced by R. Dale (2000).

11 The title “university” itself can have both a legitimizing and a de-legitimizing effect. While it associates the institution using this title with a certain transnational tradition, it also highlights the difference between the real status of the institution and what it pretends to be (Boyadjieva 2002).

12 In 1938 a special regulation with the status of a legal act was issued, which affirmed the privileged status of state schools of higher education. It ruled against private higher education schools calling themselves universi-

higher education institution in the country – the Free University – became state owned in 1940, i.e. before the socialist revolution (Boyadjieva 2003).

The first private higher education institutions emerged in the very first years after the “velvet” revolution of 1989. The way the private higher education schools in Bulgaria were created and legitimized proves Levy’s conclusions that “diversity exceeds isomorphism when private higher education is growing and that diversity appears to stem more from technical rationality than from organizational rationality, as emphasized by new institutionalism” (Levy 2004: 16). I will analyze the establishment of the first private university, which is also considered the most prestigious one – the New Bulgarian University (NBU). The university was set up following a decision of the National Assembly in 1991. It started with 500 students and in the academic 2003/2004 year already 13,963 students were being educated in 19 basic, 47 Bachelors’<sup>s</sup>, 50 Masters’ and 12 Doctoral programs (NBU 2005).<sup>13</sup>

New Bulgarian University was conceived not only as a different, but also as a radically new organization. The main purpose uniting the founders of NBU Association in 1990 was to “explore, develop and implement *alternative educational approaches and curricula*” (NBU Association Statutes 1990, *italics mine*) and on this basis to create an “*alternative university whose flexibility of structure will challenge the fixed and virtually unchanged higher education structures in Bulgaria*” (NBU 1991: 2, *italics mine*).

The idea of the New University arose from the conclusion that there was a crisis in Bulgarian education. In terms of values, the idea was founded on the rejection of “*uniformity*” of the totalitarian communist regime and the acceptance of diversity and pluralism as the main values in social life. In the sphere of higher education, “communist uniformity” was associated with the fact that “despite the existence of several higher education institutions with humanitarian profile, *we in fact had one university*, with an identical system of producing specialists (NBU 1991: 2, *italics mine*). According to the founders of the new university, the inherited structures from totalitarian times were not only “uniform”, but also “fixed and unchangeable in principle”, which meant they were entirely

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ties, offering disciplines which are taught in the state institutions of higher education and issuing diplomas for full completion of higher education.

- 13 Evidence of the prestige of the New Bulgarian University is the fact the it was the only Bulgarian university, which, through its Department of Cognitive Science, was nominated twice (in 1998 and 1999) for the international Hanna Arendt Award, honouring higher education institutions from Eastern Europe, which demonstrated the desire and capability to reform and develop (Dahrendorf 2000).



impossible to reform or change. Therefore they saw the way out of the crisis in the creation of “another system, as opposed to a single one”. So that the new organization sought legitimacy not through similarity and imitation of the established model of higher education, but through purposeful and systematic distinction from it – it aimed to be a “*different university*”, offering “*different education, different from the established one*” (NBU 1991: 2, *italics mine*). In the initial documents creating the New Bulgarian University, the comparison with the oldest and most prestigious Bulgarian University – Sofia University – was clearly present – a comparison which aimed to highlight the qualitative difference of the new institution. This difference was sought in all possible aspects:

- *status* – the new university is private, Sofia University is state owned;
- *organizational principle* – the new university is set up as a structure “whose essence is the constant construction of dynamics” which aims to offer multi-level individualized education, whereas Sofia University is based on tradition and the “security of the solid form” (NBU 1991: 4, 6).
- *organisational structure* – New Bulgarian University is organized into faculties and departments which “are not created to last for ever but can be transformed according to new scientific trends”, whereas the faculties and departments of Sofia University personify the “sclerosis of the oldest established disciplines” (NBU 1991: 3, 7)
- *educational philosophy* – New Bulgarian University offers wide-profile education with interdisciplinary character, which is to be completed through a selection of courses and students’ individual studies; education at the Sofia University, on the other hand, is based on uniform mandatory curricula for all students and uses lectures as the dominant teaching method.
- *attitude to students* – the new university encourages and relies on students’ activity, whereas at the Sofia University they are “treated as high school pupils” and are passive recipients of the educational process;
- *funding* – the new university “cannot be poor in any respect” (NBU 1991: 3) and thus it seeks diverse funding sources, whereas Sofia University depends primarily on the state and suffers drastic shortage of funding.

Gaining legitimacy by differentiation from that which already exists, is familiar and has been established as the only possibility for decades, accomplished is not only in practice but on a symbolic level as well. Ac-

cepting diversity as a fundamental feature of the image of the emerging institution was encoded in the university's name – *New Bulgarian University* – and its motto: *Do not fear diversity* – “*ne varietatem timeamus*”.

The strive to be different is not valuable for its own sake. It has its conceptual justification in the creation of those institutional prerequisites which would stimulate innovation in university life, and in this way, make the attainment of new goals possible. Therefore it is a matter of creating a sustainable institutional environment which is not only alternative but “*productive* with its alternativeness” (NBU 1991: 6, *italics mine*). In its mission statement, New Bulgarian University formulated its ambition to be an “innovative institution”. Throughout its existence it has really proven to be an institution which diversifies the Bulgarian educational space, affirming new goals, principles and values. It is the New Bulgarian University which introduced the Bachelor's and Master's academic degrees, the credit system and distance learning long before the other institutions did. It should especially be noted that even after the institutionalization of these innovations in the overall higher education system in Bulgaria, i.e. beyond the “initial life cycle” (DiMaggio/Powell 1983: 148) of the Bulgarian post-totalitarian higher education, NBU continues to maintain its innovative spirit, to create its own specific image and to assert its legitimacy through its difference from the rest. Again, it was the first university to define itself as entrepreneur-minded and set itself the strategic goal to incorporate entrepreneurship at all organizational levels as the main feature of its identity (NBU 2002).

The creation and operation of the first private university in Bulgaria, since 1989, shows that there are social actors which, under certain social conditions, adopt legitimization through differentiation not only as a desired strategy, but also as the only one possible. This appears to be a successful long-term strategy when differentiation is founded on positively defined new goals and is accompanied by purposefully pursued and successfully implemented innovations.

### 3.2.3 Externally Imposed Change – Legitimacy through Interpretation

Since the Bologna declaration in 1999, one of the main topics of interest in the European context has been the impact of the European higher education initiatives on the national systems of higher education. The principle of subsidiarity prevents the European Union's (EU) involve-

ment in the higher education policy of the different countries.<sup>14</sup> The EU instrument for the development of a coherent and comprehensive strategy in education was defined as an “open method of co-ordination” which should draw on tools, organized as “mutual learning processes” (Council of the EU 2002). Simultaneously the Bologna process was launched in 1999 as a joint initiative of 29 countries to create common European higher education standards by 2010. Although the Bologna process is not part of the European Union’s activity in higher education, there are signs that the European Union “is increasingly taking over it” (Tomusk 2004). Some European officials even convey the message that all signatory countries of the Bologna Declaration have no choice but to fully implement the 9 objectives of the process for if they do not “the process will leave European higher education less strong and united than before” (Reding 2003: 3). It seems that the creation of a European Higher Education Area is a simple act of externally imposed compulsory changes. However, the real processes are much more complex. For this reason, it is impossible to comprehend them by using traditional methodological schemes – for example by applying the classical version of the implementation analysis and regarding the emerging relations and practices as having been created entirely ‘top-down’.

I will focus on two institutional changes in Bulgarian higher education which both resulted from the desire of the country to join the European Higher Education Area:

- introduction of Bachelor’s and Master’s academic degrees and
- introduction of the university assessment and quality assurance systems.

In both cases it is not simply a matter of improving the existing institutional models but introducing structural elements based on new principles and values, and thus giving new qualitative characteristic to the overall system of higher education. The Bachelor’s academic degree has no analogue in the history of Bulgarian higher education, which was initially developed under the influence of German educational traditions, and later – under the Soviet influence. As far as the university quality assurance system is concerned, the values upon which it rests – responsibility, transparency, accountability to society, initiative – contradict those established during the totalitarian regime, which substituted social

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14 Article 149 of EU Amsterdam Treaty (1997) states that “the Council [...] shall adopt incentive measures (in the sphere of education), excluding any harmonization of the laws and regulations of the member States”.

interests with party interests and lacked transparency in every social sphere.

The Bachelor's and Master's degrees were introduced into Bulgarian higher education with the Higher Education Act of 1995. From a social point of view, those were years of acute and continuous economic crisis, high unemployment and political instability. As far as the higher education system is concerned, despite the presence of positive changes after the "Tender" revolution (de-ideologizing of the teaching process, diversification of academic disciplines and institutions, the establishment of the first private higher education schools), the inherited principles and structures remained dominate. The Higher Education Act of 1995 was created as a reaction to the Academic Autonomy Act of 1990 – it limited the autonomy of higher education institutions and established stronger state control over the development of higher education through the introduction of unified state requirements for the content of academic curricula and a state register of academic disciplines. Thus, the described specifics of the social and educational environment in which the new academic degrees were introduced, loaded the change with certain, so called, "Bulgarian" tasks. The officially launched motive for this change was the desire to stimulate Bulgarian higher education to join the European education area. The results of surveys conducted have however shown that, according to the academic community, the real reasons were different. According to some experts, the reason was to lower expenditures for education by decreasing the number of students, in the opinion of others, the reasons were political and educational: "to overcome the consequences of the previous period of university autonomy", to stimulate the internal reform of higher education schools as well as the restructuring of the sector (Slancheva 2000: 21-22). A widely held belief was that the introduction of the new academic degrees was an "administratively imposed" change, which was not felt as an "objective need" and was therefore an "arrogant, unjustified interference of the state in higher education", "the next mechanical transfer of foreign experience" (Pavlov 2000: 13).

The uniqueness of the overall context in which the new academic degrees were introduced, primarily the legislative framework of higher education system and the lack of a real labour market, predetermined the result. "A three-step structure was introduced without actually changing anything" (Pavlov 2000: 13). It was more of a "renaming" rather than a meaningful reform (Slancheva 2000: 28). Instead of generating significant changes in university activities, the innovation itself went through certain modifications, which not only made it lose its identity but also diminished its power to affect the other elements of the system. In most

cases, the academic curricula were reviewed in a formal way by compacting the former 5-year curricula into 4-year curricula while keeping the orientation toward narrow specialization. Thus, the Bachelor's degree did not obtain the status of an independent final degree, but remained a "preparatory phase for the forthcoming Master's degree", which explains why "it is considered less prestigious – something similar to an incomplete Master's degree" (Slancheva 2000: 29-30). The data from a recently carried out survey show that only one third of the representatives of the universities' governing bodies consider their universities ready to harmonize their academic degrees with the Bologna two-cycle degree structure (Pashkina 2005: 86).

University assessment and quality assurance systems were made official with the Amendment to the Higher Education Act of 1999. In this case, similar to the new academic degrees, a significant change in the system of higher education was introduced without the existence of a conceptual framework. Elements of such a concept appeared much later in 2004. In the new amendments to the Higher Education Act, approved at that time, the goal of the university quality assurance system was defined and specific rights were delegated to the higher education institutions to define the parameters of the system (Higher Education Act 2004).

The way the university quality assurance systems were introduced and, most importantly, the specifics of the existing model of the national higher education system significantly influenced their status and their outcomes. Within the state higher education model, which remains dominate in the country, quality control is necessarily highly centralized and "unavoidably a mechanism of enforcing power", whereas, as a procedure, it is diminished to the "elementary comparison of specific academic situations with the imperative standards set by the state" (Dimitrov 1999: 107-108). According to a representative study<sup>15</sup>, conducted more than 5 years after the higher education institutions were legally obliged to implement quality assurance systems, 18,4 % of the responding faculty said that there were no such systems in their schools, 20,5 % assessed their operations as formal, 41,3 % assessed them as positive, 0,4 % as negative, and 19,4 % responded with "don't know". The data obtained makes it obvious that one of the basic elements of the quality assurance systems – surveys of students' opinions – does not work. Only 34 % of the students said that such surveys were carried out in their departments. Regarding the effect of these surveys on the learning process,

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15 "Factors influencing the quality of higher education in Bulgaria", performed by the Association for Social Studies 2004 (Dimitrov 2005: 112)

the highest percent of students (20,7 %) did not see any change. The data also show a sharp discrepancy in the students' and faculty' assessment of the effectiveness of student opinion surveys. While 45,9 % of the faculty think that the academic faculty take students' opinions into account and try to improve their teaching methods, only 10,9 % of the students said the same.<sup>16</sup>

The analysis of the introduction of the Bachelor's degree and the university quality assurance system in Bulgarian higher education institutions reveals that the effect of structural innovation and the way it is perceived are contextually determined. The context, including both the characteristics of the wider social environment and of the specific professional field, not only affects the speed of implementation but its content parameters as well. Two methods of incorporating an "imported" institutional model into a functioning system of higher education stand out. The first is a formal one – the innovation is simply placed next to the other elements of the system, without actually interacting with them and without causing any significant changes in the system. The second is interpretative. In this case, social actors are not passive recipients of institutional patterns developed somewhere else by someone else, but active interpreters, who can easily change the innovation's purpose as well as its content and role. It is especially important to emphasize that in both cases – the formal and the interpretative – the result of the "importing" of models only makes the Bulgarian educational system externally seem more similar to the higher education systems from which models were adopted.

### 3.3 Discussion and Conclusions

The development of Bulgarian higher education since 1989 has occurred in a society undergoing radical social change with periods of deep political and economic crisis. For this reason it is not surprising that even today – 15 years after the "velvet" revolution – the Bulgarian higher education system can be described as post-communist, bearing some signs of its totalitarian past, (the overcoming of which will be linked to the general development of society) and suffering from the "diseases" of the transition period, namely – ineffectiveness of universities' management structure, inadequate financing, evidence of corruption, lack of public accountability and transparency.<sup>17</sup>

16 This very low opinion of the effectiveness of surveys of students' opinions was recently confirmed again (Pashkina 2005: 69).

17 See for example the empirically based analysis of some of these problems in Dimitrov 2005.

The institutional development of higher education in Bulgaria since 1989 provides additional evidence for justifying the need for and usefulness of the mutually complementing ideas of early institutional theory and neo-institutionalism. This development can be comprehended within the theoretical framework of an “open institutionalism” which includes more insights from early institutional theory than from neo-institutionalism. More concretely, the analysis of the development of Bulgarian higher education since 1989 gives grounds for the following conclusions:

- Institutional changes in higher education schools, viewed as complex organizations, are determined by a number of factors and implemented in a complex, non-linear way. Environments of higher education institutions include not only the professional field but also the broad social (political, economic, cultural) environment, which has direct influence on them as well as an indirect impact through its effect on the professional field. Thus, higher education development, both at the national level and the level of the individual school, is related to the simultaneously developing processes of similarity and divergence, of imitation and differentiation, of real and symbolic changes.
- Institutional changes in a particular higher education system cannot be comprehended without knowing the history and the specifics of the system. The existing system of higher education is not only a storage room in which institutional innovation can be literally placed. It is a structural space of interrelated institutions, principles and values, which actively influence the reception and the content of the innovation by transforming it or including it in networks which endow it with a certain character. The way Bulgarian higher education has incorporated “imported” institutional models confirms Stensaker’s conclusion, that different higher education schools actively interpret external demands as ‘translated’ external definitions in a way which matches their own needs” (Stensaker 2004: 194-196). Even coercive political influence does not always lead to institutional isomorphism because external influences (either normative imperatives from the state or cultural expectations of the environment) are subject to interpretation by organizations and are thus incorporated in their practices in various ways. The development of Bulgarian post-totalitarian higher education is also in line with Kruecken’s observation “that universities adapt new challenges rather to existing practices and identity concepts than adapting these practices and concepts directly to their environments” (Krücken 2003: 332).
- Not only are organizations affected by their environments. Environments themselves are not constant unchangeable values. They con-

stantly change, even under the influence of the organizations functioning within them. In periods of deep social change, higher education institutions not only represent and reproduce socially established values and principles, but actively contribute to the establishment of new ones.

- Under conditions of deep social transformation, successful legitimization is attained not only by imitating institutions perceived as successful in a given social context, but also by differentiating from them and identifying with external, in this sense foreign to the specific context, institutional regulations and order.
- The institutional development of higher education in the countries of the former socialist block shows that the implementation of European initiatives can not be understood as simple ‘top-down’ effects on national systems unproblematically leading to the emergence of a common European Higher Education Area. There are different mechanisms through which the Europeanization process affects higher education institutions in different countries and this “variety of mechanisms [...] is itself a diversifying factor” (Dale 1999: 2).
- The supporters of the “Common World Educational Culture” model have demonstrated the existence of global trends in university development, based on universal norms and culture. But – as they also acknowledge – “there are, of course, traditional country-to-country and university-to-university variations” (Frank/Meyer 2005: 37). In order to comprehend the way the concrete universities are functioning, we must understand how global trends are localized and why these “country-to-country and university-to-university variations” exist.

#### **4. The European Education Area in a Globalizing World**

In a recent publication of the European Commission, “uniformity” and “over-regulation” are defined as “bottlenecks” of European higher education. It is argued that although “sufficient compatibility between the different national regulations is indispensable” “European higher education is and needs to remain diverse with respect to languages, cultures, systems and traditions” (European Commission 2005: 6).

The globalizing world constitutes a radically new social environment. In the words of Bauman the post-modern world is a “multivocal world of uncoordinated needs, self-procreating possibilities and self-multiplying choices”, “A world in which no one can anticipate the kind of expertise that may be needed tomorrow”. In such a world “the recog-



dition of many and varied ways to, and many and varied canons of, higher learning is the condition *sine qua non* of the university system capable of rising to the postmodern challenge”. Therefore “it is the good luck of the universities that there are so many of them, that there are no two exactly alike [...]” (Bauman 1997: 25)

Comparing birds’ and people’s houses, one of the greatest Bulgarian writers Yordan Radichkov says:

“house after house, almost all similar: door, window, tile, chimney. Man cannot think of anything else, he just builds a house as he has done it since old times. But the bird thinks of things. One bird builds with mud, another with hay, a third one with thorns, the woodpecker makes a hole in the tree and builds a house inside [...]. One should wonder how the bird makes such nests, each one so different from the other.”

We cannot learn to fly in the sky like birds, but we can learn from the way they live on the land.

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# **Doctoral Education in Europe: New Structures and Models**

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## **1. Introduction: What Makes Doctoral Education a “Hot Topic”?**

Doctoral education has become a “hot topic” in Europe. Two political events triggered these discussions.

It is common knowledge that the European Commission never had any competences in the field of education, including higher education. Education was and still is considered to be an area of national importance because it is closely related to national culture and identity but also to economic competitiveness. The Treaty of Maastricht, signed in 1992, changed this to some degree because for the first time the European Commission was allowed to establish incentive programmes supporting exchange of people, cooperation of institutions and mutual recognition on the basis of trust in the field of education. This was partly due to the success of the ERASMUS Programme which supported networks of departments among which students and staff were exchanged, recognition of study abroad took place and joint curriculum development was undertaken. Still, the actual interference of the European level in any kind of curriculum development and the contents of education continued to be a taboo.

In May 1998, the ministers of education of four European countries (Germany, France, Italy and Great Britain) during a meeting to celebrate the 800<sup>th</sup> anniversary of the University Sorbonne-Paris adopted a declaration entitled “Joint Declaration on Harmonisation of the Architecture of the European Higher Education System” (Sorbonne Declaration 1998). The declaration was a first step towards creating a unified struc-

ture of studies to further reduce barriers for mobility and exchange. It was not intended to interfere into the content of studies, learning and teaching styles. One year later another meeting, including many more European ministers of education, took place at Bologna the result of which was to become the famous Bologna Declaration (Bologna Declaration 1999). It has by now been signed by 45 European countries. The most important part was the intention to create a “European Higher Education Area” until 2010 and introduce the two-tiered structure of studies consisting of a Bachelor degree of about three years’ duration as the first degree providing students with an education that enabled transition into the labour market (employability is the key word here) and – for a clearly smaller proportion of students – the offer to continue with a Master degree of approximately two years’ duration.

The European Commission was totally surprised by this undertaking. This was what the Commission had always wanted but was never allowed to do because education was deemed to be a national responsibility. The European Commission began to support the Bologna process which started after 1999, meaning the actual implementation on the national level of what had been decided by the ministers. At the same time the Bologna Process triggered considerable reform dynamics in almost all European higher education systems. The ministers also agreed to meet every two years until 2010 to do a stock-taking of the implementation process. They have met in Prague (Czech Republic) in 2001, in Berlin (Germany) in 2003, and in Bergen (Norway) in 2005. They will meet again in 2007 in London (UK). Each of these high level meetings is prepared by a so-called “Trends Report”<sup>1</sup> analysing the implementation process in the countries involved in the process. The Bergen meeting was additionally prepared by a small group responsible for a more general stock-taking after half of the period until 2010 had elapsed. In many countries smaller and larger studies are commissioned by the governments to look into the national implementation processes. A further important step was the Berlin Communiqué in 2003 informing about the intention of the European ministers to include doctoral education into the new tiered structure, i.e. Bachelor degree (3 years), Master degree (2 years), and doctoral degree (another 3 years).

The European Commission reacted to this surprising development not only by actively supporting the Bologna Process but by coming up with a similar goal in the field of research and technological development. At the Lisbon Summit (Lisbon Summit 2000) in 2000, a communication from the European Commission to the Council, the Parliament

1 For the most recent Trends IV Report cf. Reichert and Tauch (2005)

and the relevant Committees was issued proposing to create a “European Research Area”. In his Lisbon speech, the Commissioner for Research, Philippe Busquin, declared to make Europe the most dynamic and competitive knowledge economy in the world until the year 2010 and in order to achieve this, it was decided to raise the proportion of the national GDP spent on research in all member states to 3 percent, thus envisaging to also raise the number of qualified researchers in Europe and to trigger further innovation.

The two processes have begun to merge: Creating a European area of higher education and a European research area in order to become a dynamic and competitive knowledge society on a global scale has not only created a renewed importance of the role of universities in terms of their task of research and research training, it has also led to a closer scrutiny of the ways in which research is currently organised.

Suddenly, money was available to study the issue of research education and training, to analyse existing problems and arrive at possible solutions. Several larger scale studies have been carried out recently, for example, the “Doctoral Programmes Project” carried out by EUA (EUA 2005), or the UNESCO-CEPES study (Sadlak 2004).

Furthermore, two networks for doctoral students have been created on a European level. One is a self-organised network called EURODOCS, in which doctoral students from a variety of member states have associated to represent their interests vis-à-vis the various policy-making bodies. The other one, with a very similar name, called EUREDOKS, is a network organised by researchers in the field higher education for doctoral students working on comparative European topics.

Overall, it has become more important to look into the issues of research training for a variety of reasons. First, there is widespread dissatisfaction with the quality and the duration of research training. Second, there is the ambitious goal to invest into research to make Europe more competitive. This has at least two consequences: (a) not all researchers will take up a career in academia and therefore might need different skills and competences than previously; (b) further barriers towards mobility within Europe must be removed but are difficult to remove due to problems of intra-European brain drain (from East to West, from South to North) and also due to increased competition within Europe, be it for tuition fees or be it for the danger to give away knowledge that can be turned into a profit through licenses and patents.

The debates and reform initiatives targeting doctoral education in recent years are clearly driven by a more utilitarian and economically oriented outlook on the production of knowledge which has a competitive edge attached to it. The question which is asked is whether current forms

and practices of doctoral education are appropriate to prepare scholars and researchers to meet the demands of society and the global world (Nerad 2004, Nerad/Heggel 2005). Relevance and employability are now also on the agenda for doctoral education.

## **2. What are the Problems with Doctoral Education?**

UNESCO's European Centre for Higher Education (CEPES), located in Bucarest (Romania), has as its mission to promote cooperation in higher education among the states of the European region but also to provide bridges for active cooperation on a more global scale. After publishing the results of a study on the doctorate in the European region in 1994 (Kouptsov 1994) which included 31 countries and provided a description of the requirements and conditions in the process of getting a doctoral degree, UNESCO-CEPES and the Elias Foundation of the Romanian Academy of Sciences initiated another project which looked into the issue of doctoral degrees and qualifications in the context of the European Higher Education Area and the European Research Area. Thirteen national case studies were commissioned in 2003 including the following countries: Austria, France, Germany, Italy, the Netherlands, Norway, Poland, Romania, the Russian Federation, Spain, Sweden, the United Kingdom, and the United States of America. The United States were intentionally included because their model of doctoral education, i.e. basically organised within the framework of graduate schools, is often referred to as a model for Europe (Sadlak 2004).

The synthesis of these country studies (Kehm 2004) identifies the main challenges and trends in the development of doctoral studies from the perspective of the Bologna process requirements. Altogether eleven main concerns and issues were identified.

### **2.1 Institutional Structures and the Shape of Doctoral Education**

There is a clear trend to establish a more formal structure for doctoral education including course work and research education and training within disciplinary or interdisciplinary programmes or graduate schools.

Programmes or schools are intended to reduce the length of doctoral education, to prevent or reduce drop-out and to provide a more targeted research training. Following the course work they also include a detailed



work plan for carrying out the research for the thesis which often takes place under shared supervision. Currently, in those countries following the traditional “master – apprentice – model” the old and the new system of doctoral education exist parallel (e.g. in Germany, Austria, Russia, Poland, Italy, Norway). While the traditional apprenticeship model relies on a personal relationship between doctoral student and supervisor, the structured programme model has a more regulated and standardized approach.

As the European countries which have signed the Bologna Declaration are currently re-designing their degree structures as well, the shape of doctoral programmes is also dependent to some extent on the question whether the new Master degrees should include a research option which may at the same time represent the taught part (or some of it) of doctoral studies. This is the model of the Anglo-American graduate school and an option under debate in France and Spain. In contrast to this, the German regulations require a distinction between research oriented and professionally oriented Master programmes and a successful completion of a Master degree before there is an opportunity to start the phase of getting a doctorate.

In some countries (e.g. Sweden, Spain, but also in the USA) we find two distinct phases in doctoral education, the first phase mostly including the course work and finishing with a candidate degree or a certificate in advanced studies while the second phase more or less consists of research work and writing the thesis.

Quite a few countries have detailed regulations concerning the institutions being allowed to offer doctoral education or set up graduate schools and have defined requirements which institutions and doctoral candidates have to fulfill in order to start doctoral education. These regulations are most pronounced in Russia, Sweden, Norway, and the UK, though in each country for different reasons. In particular the Netherlands, Norway and Sweden but also Italy, have some kind of contractual relationship between the doctoral student and the institution, regulating the rights and obligations of both sides. As a rule, institutions offering doctoral education and awarding doctoral degrees must either be accredited by the state to do so or be a certain type of institution (i.e. a university). Private institutions and the non-university sector institutions can not award doctoral degrees. However, exceptions to this rule exist as well. Often selected extra-university research institutes and/or academies of science have been granted either the right to confer doctoral degrees or the right to train doctoral students in cooperation with a university which then confers the degree. In several countries (e.g. the Netherlands, Spain, Sweden) also higher education institutions without university

status can cooperate with universities in the framework of graduate schools or, as is the case for Sweden and Norway, may even award doctoral degrees in specified subjects. Only in Russia the doctoral degree is awarded by a governmental body rather than by the institutions. In Romania doctoral degrees have to be validated by a national body.

In the UK, in Austria and also in the USA we find an emerging distinction between research doctorates and professional doctorates. This distinction also shapes some elements of the programmes for doctoral education and training. There is still a problem of definition and distinction in these countries in terms of doctoral education versus research training. Closely related to this issue is the status of doctoral candidates ranging from fully salaried employee via hybrid states in between employee and student to grant holder and to fee paying student (for more details on this issue cf. Section 3.3 and 3.10).

## 2.2 Admission into Doctoral Education and Training

Admission again ranges from highly regulated and highly competitive to rather informal and unregulated. The apprenticeship model is very informal and unregulated – i.e. a student does not have to do any course work and can choose his or her own topic for the thesis but has to find a professor who accepts the task of supervision and the chosen topic – while the programme or school model tends to be highly regulated and contractual in a variety of aspects. Some of the European countries (e.g. Italy, Sweden, Romania, the UK) only allow a fixed number of doctoral candidates which makes admission highly selective as there are usually more applicants than places. Reasons to restrict the number of doctoral candidates are typically the requirement to guarantee adequate resources and support or, in the case of Italy, the number of available tenured positions for postdoctoral academic staff. In Sweden there was a sharp decline in number of applications when admission into doctoral programmes was restricted in 1998. At that time admission was made dependent on available funding for the entire period it took to complete a doctoral degree which the university had to guarantee. In disciplines with less access to external funds (e.g. humanities and social sciences) this led to a considerable decrease in the number of doctoral candidates.

As a rule, all doctoral programmes have admission procedures. Entrance examinations, however, are only carried out in Russia, Italy, and Romania. Sweden, Norway and the Netherlands have introduced or are currently introducing official admission procedures, i.e. establishing rules for application, eligibility, selection and decision about candidates applying for participation in a doctoral programme. In the UK a code of

ethics and minimum threshold standards including good practice guidelines for doctoral programmes and regulations concerning a critical mass of available researchers and supervisors have been introduced which also guide selection, admission, enrolment and induction of doctoral students.

It is also noteworthy that admission into doctoral programmes or acceptance as doctoral student is possible in some countries without a previous degree, in other countries after a Bachelor degree (or equivalent), and in again other countries after a Master degree (or equivalent). If we take into account that not all European countries have established the tiered pattern of 3 plus 2 plus 3 in all subjects and all institutions, denoting the number of years to attain a Bachelor, a Master and a doctoral degree which has been proposed in the framework of the debates to create a European Higher Education and Research Area, the requirements for access in terms of number of years of previous study and previous formal qualifications vary considerably. In addition, there are efforts in several European countries to open access into doctoral programmes for professionals with practical experiences (for more details on this issue cf. Section 3.10), so that diversification in terms of access and admission requirements increases even more.

## **2.3 Status of Doctoral Students and Requirements**

In many countries, the status of doctoral students is that of a student being enrolled at a university and affiliated to a department, a research institute, a research team or a laboratory in his or her field of specialization. In addition, a doctoral student might also be a member of a graduate school or participate in a cross-disciplinary doctoral programme. Such schools and programmes frequently ask for tuition fees. However, there are a number of exceptions.

In Poland, many doctoral students have the status of junior scholars being employed by the university as assistant teachers. This provides them with faculty privileges but no regular salaries. Currently a new draft law envisages giving doctoral students a student status rather than continuing with the status of being a member of the faculty. In France, doctoral students enter into a contractual relationship with their university by signing a “Charter of Thesis” which defines the responsibility of both sides. They have student status and must be enrolled so that they are eligible for social security benefits. In the Netherlands, a new system of doctoral training was introduced in 1986 giving the doctoral student a status of doctoral trainee being employed and salaried by the university on a temporary basis. For training and supervision fees are deducted

from that salary. Dutch doctoral students also have a contractual relationship with their university establishing a plan for training and supervision. These arrangements have been characterized hybrid because in the Netherlands doctoral trainees are neither fully salaried nor do they have a proper student status. This has led to an emerging shift away from research training towards doctoral education but within the framework of regular employment (de Weert 2004). Romania as well has a somewhat hybrid status for doctoral students who can have a teaching or laboratory position for up to half of the regular workload of a university assistant. Sweden and Norway are probably the most advanced of all countries in Europe concerning the contractual relationship and guaranteed funding of doctoral students during their entire period of getting a doctoral degree. Usually they are appointed to a postgraduate studentship which includes course work as well as some teaching or research obligations which may not exceed 20 or 25 percent of a regular workload. They do their work on the basis of a general and an individual study plan which is approved by a faculty board. Annual follow-up of the plan is part of the agreement.

## 2.4 Funding Doctoral Education and Training

The funding of doctoral education and training is another issue of great diversity. In some countries doctoral programmes ask for tuition fees, others pay their doctoral candidates. Often doctoral students are offered a position as paid teaching or research assistants. Such positions constitute an additional workload and usually lengthen the time-to-degree. Many countries provide a range of state grants or scholarships which usually have no social security benefits included. Frequently, there is also a possibility for part-time doctoral studies so that funding can be secured through an outside job or through a university job. The mostly rather insecure financial situation of doctoral students has led to a number of concerns in terms of status, time-to-degree, and drop-out rates. A number of countries (e.g. the UK, Norway, Sweden, the Netherlands) have tried to remedy this by establishing rules and regulations for doctoral training and supervision, restricting doctoral training and education to certain institutional frameworks and availability of resources and by entering into a contractual relationship which defines the rights and obligations of both sides.

## 2.5 Increase in the Numbers of Doctoral Students

Since the 1990s, most European countries have experienced an increase in the number of doctoral students. In Spain the number of students enrolled in doctoral studies as well as the number of students awarded a doctoral degree doubled between 1990 and 2000. Numbers in Sweden increased by 35 percent during the 1990s and then stagnated between 1998 and 2000. A similar development is noted in Austria: a tenfold increase in number of doctoral students between 1980 and 2000 and then a sharp decline reducing the number to the level of 1990 due to new state regulations. Since the 1980s the number of doctoral degrees awarded in Germany has more than doubled and with about 24,000 doctoral degrees awarded annually Germany belongs to those countries worldwide in which the highest number of doctorates are awarded. To provide a context for this figure: In the UK about 14,000 doctoral degrees are awarded annually and in France about 11,000. In the USA approximately 1.2 percent of all citizens above the age of 25 have a Ph.D. degree, while the same figure for Germany is 1.8 percent and the average proportion across all OECD member states is 1.0 percent (OECD 2002, Enders 2005b).

Between five and nine or ten percent of all students having successfully completed a first phase of studies and received a degree go into doctoral training (in the UK 5 %, in Italy 6 %, in Germany 8.9 %, in the Netherlands 9 %). An exception in this respect is Spain where 30 percent of all graduates go into doctoral studies.

In the majority of European countries medicine and sciences continue to have the highest number of doctoral candidates. However, the increases over the last decade have often been due to an increase in the proportion of women going into doctoral training – e.g. in Italy 53.1 percent of doctoral students in 1999/2000 were women, in Spain the percentage of female doctoral students is currently 51 percent, in France 40 percent of doctorates were awarded to women in 1998 – but also to an increase in the proportion of part-time doctoral students and to a higher number of persons returning to university for doctoral studies after a period of employment. Looking at the subject distribution the picture is more varied again. In some European countries the increase in the number of doctoral students has been in the humanities and social sciences as well as in what has been called “professional subjects”, e.g. management and education, while in others these fields experienced a decline in favor of natural and medical sciences.

Most European countries, with the exception of the Central and Eastern European countries also experience an increase in the number of

doctoral students from abroad. France, for example, awarded 25 percent of its doctorates to foreign students in 1998, in Germany the proportion was 7.5 percent in 2000. The UK boosts a proportion of 44 percent international students in doctoral education, 13 percent of whom coming from the EU member states and 31 percent from other countries.

## 2.6 Duration of Doctoral Programmes and Attrition

The majority of European countries have some kind of proxy in terms of the length of doctoral programmes. As a rule, duration is between two and four years. But in many countries it has been increasing and thus also the average age at the award of the doctoral degree. In recent years many reforms and further regulations have been introduced because of concerns about the actual time-to-degree and high drop-out rates. Mean age at the time of defense of thesis varies according to subject. For example, in Germany the mean age at defense of thesis was 31.9 years in 1990, in 1995 it was 32.0 years, and in 2000 it was 32.7 years. In Norway and Sweden the mean age at defense of thesis is even higher (around 37.7 in Norway in 1995 and 37.9 in Sweden in the same year) and has not been much reduced in the recent years (37.4 years in Norway in 2000 and 37.2 years in Sweden in 2001). In both of the latter countries, however, the average age when beginning a doctoral thesis is considerably higher than in the other European countries. With the exception of Norway and Sweden, the reasons for the increasing age at completion and high drop-out rates are basically insecure funding and the need to earn money, lack of supervision, additional research and teaching duties, and last but not least insufficient structuring of doctoral programmes.

Those countries having two phases in doctoral training – be it two degree levels or course work followed by writing the thesis – tend to complain about the fact that the second phase is often not completed. “ABD”, or “all but dissertation” is the American expression for this. The Netherlands have introduced a type of honorary title (doctorandus) denoting the fact that a person has been part of a doctoral programme at one stage in his or her life. In the USA a doctoral candidate having successfully completed the course work for a PhD but not written a dissertation receives a Certificate of Advanced Studies. A few other countries (e.g. Spain, Sweden, and Russia) have an intermediary degree as well (Diploma of Advanced Studies, licentiate, candidate) indicating that some part of doctoral training has been followed. The actual availability of statistics on this aspect varies from country to country, but it typically takes between three and up to five or six years on average for writing the

thesis after having completed the first part, i.e. either a degree or required course work. Even in the USA course work takes two years on average but completion of degree between six and nine years with high drop-out rates.

Those countries which have introduced relatively structured programmes for doctoral education including an official part-time status, and have opportunities available for getting funds are usually more successful in reducing duration and preventing drop-out. Typically drop-out rates are higher in the humanities and social sciences than they are in the natural sciences and in engineering. Many European countries do not have statistics about drop-out rates. There are some exception, like France for example, where drop-out rates vary on average between 12 percent in science subjects and 51 percent in humanities and social sciences. Other exceptions are the Netherlands which have a drop-out rate of about eight percent and Russia where the drop-out rate is estimated at about 10 percent.

## **2.7 Supervision and Quality Control**

In most European countries it is assumed that the long duration until completion of the doctoral degree is directly related to a lack of proper supervision and insufficient quality assurance mechanisms. In Austria ‘overcrowding’ in some undergraduate programmes (e.g. a staff-student-ratio of 1:355 at the Vienna University Institute for Political Sciences) seriously threatens the quality of doctoral education due to a lack of supervision since professors are overburdened with undergraduate work (Pechar/Thomas 2004). But even in those countries which have a more structured doctoral education in a framework of proper programmes or graduate schools or colleges, insufficient supervision has been a continuous concern. Only in the Netherlands, Sweden, Norway, and Russia a regular, i.e. at least annual, follow-up of agreed study and supervision plans takes place. However, only those countries requiring a contractual relationship between the institution and the doctoral candidate or having a code of ethics which includes the rights and obligations of both sides and have some kind of appeal mechanism (UK, Netherlands, and Sweden) seem to be able to achieve better results in terms of time-to-degree and attrition.

Quality assurance mechanisms for doctoral education and training seem to be most pronounced and highly regulated in the UK. The establishment of these mechanisms was due to concern about poor completion rates. Since January 2001, the British Quality Assurance Agency (QAA) has established a framework for all degrees, including the doc-

torate, which defines the required skills and competences which must be demonstrated in order to be awarded the respective degree. It has also put a new emphasis on minimum standards, facilities and support structures which must be in place before an institution is granted the right to award doctoral degrees. At the same time, the British case in comparison to other countries tends towards over-regulation.

In Sweden postgraduate education is evaluated every six years by the National Agency for Higher Education. In the Netherlands the research schools are subject to quality assessment as well. However, there is an additional financial incentive as universities get extra funding for each doctorate that is awarded. In Spain doctoral programmes are evaluated annually by a University Commission. In addition, external evaluation of doctoral programmes is required to obtain state funding. In France postgraduate or doctoral schools are only recognized for four years, which is the length of the contract between the individual institution and the state. After four years there is an evaluation and – depending on the outcome – the contract can be renewed or not. Italy has only recently introduced some quality mechanisms for doctoral education and Germany and Austria are still rather dependent on the traditional model of individual acceptance of a doctoral candidate and his or her topic by a professor who agrees to supervise the research and thesis. In both of these latter countries, however, the establishment of doctoral programmes and graduate schools is very much on the policy and reform agenda. With the support of the German Research Council, more than 280 graduate schools for doctoral students have been set up over the last 15 years and other bodies are funding similar models as well. Also Austria has started to set up graduate programmes. But the majority of doctorates in both these countries is still awarded on the basis of the master-apprentice-model.

Russia, Romania, and Poland tend to rely on state regulations and governmental bodies. In Romania and Russia in particular, over-regulation seems to be the case including extensive accreditation and validation measures as well as process control. In Romania all doctoral degrees have to be validated by a national council, in Russia all procedures of accreditation, licensing and certification are carried out by federal bodies.

Despite that fact that all European countries have either *ex ante* or *ex post* quality assurance mechanisms in place, there is great variation and no optimal model is emerging as yet.



## 2.8 Mobility and International Exchange

Although mobility of young researchers is high on the European policy agenda, quite a number of European countries have relatively low mobility rates among doctoral students. Mobility tends to take place when enrolling in a particular doctoral programme and there is clearly competition among the countries for best talent. Central and Eastern European countries continue to suffer from brain drain although they often want to give their students, including their doctoral students, the opportunity of experiences abroad. The Netherlands and the UK, in particular, are making efforts to scout for talent and guarding it, often trying to provide a variety of incentives for doctoral students from within as well as from outside the country to complete a whole programme at one university. This is related to funding and income generation on the side of the institutions as well as competition for best talent. The USA are rather successful in attracting doctoral students from all over the world. Almost half of all American doctorates in engineering, mathematics and computer sciences are awarded to international students many of whom intend to stay in the country. Also in the Netherlands some technical sciences recruit up to 50 percent of doctoral students from abroad, in particular from Asia and Eastern Europe. In the UK the proportion of British doctoral students has fallen from 64 percent in 1994/95 to 56 percent in 2001/02. Accordingly, the proportion of doctoral students from other EU countries ranges between 8 and 13 percent depending on the field of study and the proportion of other, i.e. non-EU, international students in doctoral programmes ranges from 28 to 31 percent. The proportion of foreign doctoral students in Spain is also quite considerable with 16 percent in 2000. The percentage of doctoral degrees awarded to foreigners in Germany was about 7.5 percent in 2000. In addition, 26 (9 %) of the 286 graduate colleges funded by the German Research Council in 2001 were international ones. All European countries have mechanisms in place to receive doctoral students from abroad and recognize their previous qualifications. In most countries, with the exception of Spain, the thesis may be submitted in another than the host country language (basically French, English, or German). However, Spain has a number of joint doctoral programmes with institutions abroad in place which include a research period abroad and finish with a double degree or joint degree.

In general, exchanges of doctoral students for a limited period of study, research, or training abroad tend to be more problematic in engineering and in the natural sciences as doctoral students in these fields are more often integrated into groups of researchers doing applied research

or working on a topic with a competitive aspect. As European patenting, licensing and intellectual property rights are not wholly regulated as yet some research groups feel that they might lose their competitive edge if they send their doctoral students abroad.

## 2.9 Award of Titles and Degrees

The main part of getting a doctoral degree is writing the thesis or dissertation and defend it publicly in front of a commission. This procedure is basically the same in all European countries. Other aspects of getting the doctoral degree vary to a considerable extent. Quite a number of countries require successfully completed course work as part of getting the degree, other countries require additional written or oral examinations. Finally, many rules and regulations can be found in terms of the composition of the commission and in terms of the process to defend the thesis. As a rule, the doctoral degree continues to be considered as a degree qualifying for independent research. Accordingly, the thesis must consist of a piece of original research on a chosen and approved topic in a particular field or discipline. However, the traditional perception of the doctoral thesis as a ‘masterpiece’ is changing in some countries to a perception of writing an ‘apprenticeship piece’, thus taking into account that the completion of a phase of research training should not be equaled to the work of a researcher with many years of experience.

Russia has probably the most complex set of regulations concerning the doctoral thesis. It consists of altogether four steps. The first is a preliminary defense of the thesis in the responsible department. The department evaluates and recommends the work for the final defense. The candidate then submits his/her dissertation to the university dissertation council. The dissertation council again undertakes a preliminary evaluation and assigns a so-called “leading organization”, i.e. a second university, for refereeing the thesis as well as two opponents for the defense. The final defense of the thesis is carried out in front of a public audience and consists of a debate between the candidate and the members of the dissertation council and the opponents. This is followed by a secret ballot to vote on the success or the failure. In case of success the dissertation and all documents are submitted to the Higher Certification Commission of the Ministry. This Commission will evaluate all documents and after final consideration award the degree. It must be pointed out that it is rather unusual that the result of the defense is achieved by a secret ballot rather than by open acknowledgement whether a candidate has shown sufficient research capabilities or not.

Poland, Romania, Spain, and Sweden include external examiners for the process of defending a thesis. These can be from another university within the same country but also from universities abroad. In most European countries there is a trend to include more examiners or referees from abroad or to cooperate with universities abroad in doctoral programmes including the award of a joint degree. This indicates a move towards increased international cooperation and validation of doctoral degrees.

With the exception of Germany and Austria, most other European countries have implemented regulations to make sure that the examinations and the defense of the thesis are refereed by juries or examination boards that have no direct or personal relationship with the respective candidate for the doctoral degree. Typically the supervisor of the thesis evaluates the work before it is officially submitted but after that the supervisor has little or no influence on the process and the decision to award the degree. Despite attempts to de-personalize the process of getting the doctoral degree by setting up doctoral programmes and schools, Germany and Austria still follow the tradition that the doctoral student chooses his or her supervisor who has often been already the main examiner for the first degree. This supervisor also acts as the main referee of the doctoral thesis, selects a second referee, and is the main examiner in the oral defense of the thesis. This configuration can become very personal and shaped by dependency of the candidate on the supervisor. However, it is also possible for the doctoral candidate to change his or her supervisor.

## **2.10 Professional Doctorates as a New Trend**

A number of countries (e.g. USA, the Netherlands, UK, Austria with one pilot project) have started to introduce what is being called a “professional doctorate” which is distinct from the traditional research oriented doctorate. Professional doctorates (e.g. in management studies, education, applied sciences, public services) tend to be somewhat less demanding as regards the requirement of producing an “original piece of research”. They are often related to projects carried out within an enterprise or in another future field of employment and jointly supervised by the home university and the respective enterprise. The course work emphasises more generic skills and interdisciplinary approaches. The inception of such professional doctorates is closely linked to a growing concern about the employability of doctoral degree holders in the labour market outside academia (also Bournier/Bowden/Laing 2000).

But there are still a few countries, for example Poland and Italy, in which employment of doctoral degree holders outside research institutes and academia is rather untypical. Generally, potential employers in the private and public sector criticise that doctoral degree holders are too narrowly specialized and lack generic and transferable skills. The new development of professional doctorates is intended to redress this problem by paying more attention to the issue of employability of doctoral students outside academia. In several fields of study and scholarship (e.g. medicine, chemistry, business administration or law) this is not new and has been practiced for quite some time, but there are new aspects to the issue of professional doctorates. In the Netherlands, the UK and also in the USA the emerging knowledge economy more and more often requires a workforce having research skills. In the UK and the USA this development has led to the construction of “professional doctorates” (e.g. in fields such as economics and business studies or in education) preparing the respective students not only with research skills but other generic skills and competences as well, like managing research groups and large projects, communication competences and the ability to work in teams. Usually the requirements for a thesis in such programmes are somewhat less demanding than for a research doctorate.

The basic concepts in the development of “professional doctorates” include the definition of quality, standards, and skills and entail more regulation in terms of necessary support structures and supervision. First pilot projects are on their way to achieve a stronger cooperation with industry and business (e.g. through project work in industry or joint supervision of research) and establish research schools in applied sciences (e.g. chemistry, physics, biology, public services). It is as yet unclear whether this development will eventually lead to a training status or to an employment status of the doctoral students. Overall, the number of programmes for professional doctorates is growing (cf. also Bourner/Bowden/Laing 2000, Scott 2004).

## 2.11 Transition into an Academic Career

Basically the majority of doctoral degrees continue to be considered research degrees preparing for a career in universities or research institutes. However, in most European countries there is a certain openness of the non-academic labour markets in the public and private sectors to recruit doctoral degree holders for particular positions and job tasks. Only in Poland, Italy and Spain employers outside academia are not or not yet very interested in hiring such highly qualified persons. In Germany and Austria, in particular, there have always been possibilities for

doctoral degree holders to find appropriate employment outside academia without there being a pronounced distinction between research doctorates and professional doctorates. The example of chemistry in Germany might illustrate this. A doctorate in chemistry is practically required to find employment in this field at all. A similar case is medicine. Most medical students get a doctorate because it belongs to the prestige and social status of this professional group. In Germany as well as Austria, quite a few teachers at upper secondary schools preparing for access into higher education have doctorates as well and many positions in the departments of the ministries of state and federal government have doctoral degrees.

A contrasting example is Italy where the number of doctoral students is basically limited to the number of available positions within universities and research institutes. However, in most other European countries the number of doctoral students has increased over the last ten to fifteen years and in some countries efforts to raise their numbers still continue. In several countries the number of staff positions in research and academia has not increased to such an extent that all doctoral degree holders will immediately find adequate employment. Therefore, postdoctoral fellowships provide a possibility to extend the period of transition into an academic career after having achieved a doctoral degree. As the transition period has become markedly more difficult and/or prolonged, the postdoctoral period has become an issue of concern and scrutiny in several European countries as well. The “overproduction” of doctoral degree holders has basically led to various types of post-doctoral fellowships, which can be characterized as “holding positions” until proper employment is being found. But this also prolongs the time until the beginning of a proper career and introduces an additional layer of uncertainty. Seen from a perspective of return on investment and productivity this situation is economically not very viable.

### **3. Conclusions**

If we try to summarise the eleven issues or problems being visible in terms of doctoral education today we can arrive at two large complexes, the first one having to do with the structure of programmes, funding and quality of supervision in the process of getting a doctoral degree, the second one having to do with transition into employment and adequate employment. There is a basic agreement in Europe that high quality research training as well as a higher supply of qualified researchers are important elements to realise the vision of a Europe of knowledge. To

achieve these goals doctoral education and research training is supposed to be given more structure and to improve its quality and relevance. In identifying the goals of the reform and analysing the instruments and models used to implement it, we can observe two underlying trends.

The first trend is that doctoral education and research training is no longer regarded exclusively as curiosity driven and as the disinterested pursuit of knowledge. Instead the generation of new knowledge has become an important strategic resource and economic factor. It thus becomes a commodity and its shape acquires a more utilitarian approach. Policy makers have begun to scrutinize research training and universities have been requested to develop institutional strategies to improve it. In addition, it is deemed so important a resource that it is no longer left in the hands of professors and departments but has become an object of policy making and has moved to the institutional and national, even supra-national level.

The second trend is that in most highly developed countries across the globe there has been a considerable increase in the number of doctoral students and doctoral degrees awarded over the last ten to 15 years. A further considerable increase is expected as a result of the implementation of the Bologna Process and the Lisbon Agenda. This means that an increasing number of doctoral degree holders will not remain in academia but seek employment on the labour market outside universities and research institutes or academies of science. Actually, this development is expected to trigger economic growth and innovation. However, for these jobs a research training within disciplinary boundaries and the acquisition of skills geared towards teaching and research in higher education institutions are deemed to be insufficient. Thus, reforms of doctoral education and research training are a must, even if we don't agree to the trend towards commodification of knowledge production.

The impact of globalisation with its increased emphasis on competition on the one hand and strategic alliances on the other has been identified as one of the main factors triggering change in doctoral education and research training. Globalisation is linked to the faster dissemination of information and knowledge through new information and communication technologies. This has not only led to the fact that information and new knowledge become outdated much faster than before but also to a higher relevance of knowledge generation. In the emerging knowledge societies or knowledge based economies knowledge production becomes commodified and a strategic national resource. These developments have started to have an impact on the ways in which knowledge is generated in universities and finally how education and training for the future knowledge producers is organised. It is no longer almost exclu-

sively geared towards self-recruitment of the teaching and research staff within academia but towards a much broader range of careers in society and the economy.

Emerging models for research organisation and research training for the knowledge society differ from traditional models in several respects. Paavo Uronen (Uronen 2005) has summarised them as follows:

- from national to international,
- from basic, curiosity driven research to results oriented research (i.e. relevance, impact),
- from individual research to team research,
- from narrow, disciplinary oriented research to multidisciplinary research,
- from small laboratories to larger research institutes, programmes and centres of excellence (i.e. critical mass),
- from fragments to big science,
- from public or university funded to multiple funding sources,
- from unbound research to research within programmes and projects
- from purely academic to also professional,
- from national security to competitiveness and job creation
- from utilisation of resources to sustainable development.

I would like to emphasize in particular four of these dimensions:

- There is a trend to approach doctoral education and training in a more systematic way by providing structured programmes and more transparency, including codes of ethics and regulation or even contracts to define the rights and responsibilities of students, supervisors and institutions. Critical mass and concentration in centres of excellence or strategic networks are issues here as well.
- There is a stronger trend towards internationalisation of research training through mobility and in the substance of what is taught studied and learned.
- There is an increase in governmental and institutional steering of research training emphasizing institutional, societal and economic relevance as well as competitive advantages.
- There is a growing amount of interdisciplinary approaches in doctoral programmes and schools to provide key skills and qualifications for careers in mixed research settings outside academia.

As all applied research needs basic research to build on and as research and research training is becoming more important, these two core tasks of the university will make its role probably more important instead of less important for society and economy. However, the higher education institutions, in particular universities, need to change as well in order to

face the challenges and requirements. They will have to serve a number of additional purposes and thus become multi- rather than uni-versities.

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# **Is a Global Organizational Field of Higher Education Emerging? Management Education as an Early Example**

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## **Introduction**

Are universities becoming increasingly similar around the world? Recent developments in higher education lead us to believe that this is indeed the case. These developments include the expansion of higher education in many regions and the deregulation of national educational systems resulting in the appearance of new transnational regulations. Political efforts are now underway in Europe to create a uniform internal market for higher education. These efforts were formalized in 1999 when 29 European ministers of education signed the Bologna Declaration and committed themselves to reforming their higher education systems in similar ways. We have also witnessed the growing availability of global comparative ratings and international information regarding “best practices.” Recently, the Shanghai Jiao Tong University world ranking of 500 universities, first published in 2003, attracted significant attention within universities and among university administrators. While not the first ranking of universities, the publication of this encompassing and global ranking caused quite a “stir” in the field. Suddenly universities all over the world were interested in rankings – how they are structured, what they do – and in how to make their universities rise in them. While an increase in the ranking and assessment of universities is only one recent development concerning higher education, such mechanisms are important in creating the appearance of a “global” and unified educational market. With this development, universities appear to have become active organizational reformers: they are developing new and ad-

vanced governance forms, performance measurements, and marketing techniques and activities. Are all these developments causing universities to become more alike, or are they making them more diverse in terms of structure and content?

A particular and early example of the above developments is found in higher management education. In this chapter, we review and analyze the recent emergence of the organizational and regulatory field of management education. We ask whether these developments have led to homogenization, and then discuss to what extent we can expect higher education around the world to follow the same general path.

Efforts to create a coherent global field of management education and of business schools have been underway for quite some time, and these efforts are linked to the rapid expansion of management education programs and schools around the world. In particular, master of business administration (MBA) programs have flourished around the globe and become an institutionalized and integrated part of higher education systems in many countries. The expanding field of management education encompasses a diverse mix of schools and programs, such as full-time, part-time, and distance-learning MBA programs and executive management training programs. Despite this diversity, all programs have increasingly come to be regarded as comparable and belonging to the same category.

Global ideas as to what management education is and should be have evolved concurrently with this expansion, largely because of the related expansion and increase in monitoring and assessment activities and the increasing dissemination of information about programs and schools. Particularly salient was the development of international accreditation procedures and international rankings in the late 1990s. In 1997, the European accreditation program EQUIS was launched in an attempt to strengthen and standardize European management education. Nineteen European business schools volunteered to undergo the accreditation process as pioneers. Today, the system has expanded and includes 92 schools from 28 countries around the world. Furthermore, in 1998, the *Financial Times* launched a European ranking of MBA programs; this was made international in scope in 1999, becoming the first widely recognized international ranking of business schools and programs in various parts of the world. Rankings, accreditations, and other forms of comparisons are based on assumptions of uniformity and comparability across nations and educational systems, assumptions that create the perception of a global management education field.

With the expansion of both schools and programs, and of systems to compare and assess them, the ideals and practices of management edu-

cation have come to be widely discussed – though not always applied – in similar ways around the globe. Even though attempts to start programs and schools may resemble each other, and this may initially suggest homogenization, closer examination reveals differences between both the attempts and their results. Indeed, as is true of globalization processes more generally, the flow of ideas around the world may just as easily lead to increased variation and difference as to greater uniformity (Christensen/Læg Reid 2001; Sahlin-Andersson/Engwall 2002). In fact, in-depth studies of the development of management education in Europe show that this proliferation has been followed by clear differentiation, with a central elite – a group of programs attracting increasing attention and prestige – and a group of followers that appear to be more peripheral and less influential (Hedmo 2004, Wedlin 2006). The answer to the question of whether there is increasing homogeneity or diversity is thus not so simple. The dissemination of ideas and practices, the development of global models and standards, and the expansion of the transnational regulation of practices can lead to both variety and homogeneity.

The dynamics of current higher education development can also be regarded as contributing to the generation of a global university organizational field, a development that can entail both homogenization and differentiation. To discuss the current dynamics in play, we will investigate the field of management education as a particular and early example of such a development, and even for some, an exemplar to follow. We will especially focus on the proliferation of management education in Europe and the development of accreditation and ranking systems in this context. Together and intertwined, these developments have led to the formation and dissemination of global models of management education, and thus to the formation of an organizational field of management education.

This chapter is based on four empirical studies. The first traces the development of management education in Europe and elsewhere, building on secondary sources such as guidebooks and directories of business schools and MBA programs. This material was compared with and complemented by the findings of previous studies (Locke 1989, Engwall 1992, Daniel 1998, Engwall/Zamagni 1998, Moon 2002). The second study analyzes the development of media coverage of management education, with a special focus on the development of European media rankings. The third study tracks the emergence of a European system of management education accreditation, while the fourth presents the results of a survey of business school deans, asking for their reactions to the emergent accreditation and ranking systems. A combined analysis of these four studies reveals the interplay between processes of imitation

and re-regulation, which together generate both a global model and an organizational field. Before analyzing the dynamics of these intertwined developments and their consequences, we will briefly elaborate on the conceptual framework used to analyze the two processes of imitation and re-regulation and their impact on management education development.

## **Regulatory Impacts on Organizational Field Development**

An organizational field consists, according to the now classic definition of DiMaggio and Powell (1983:148), of “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products.” DiMaggio and Powell and later others (e.g., DiMaggio 1987, Leblebici et al. 1991, Greenwood et al. 2002, Lawrence et al. 2002) have shown that once such a field is established, strong mechanisms drive its constituent organizations to become increasingly similar. With the formation of organizational fields relationships also tend to become more structured, with some organizations becoming more central and others more peripheral. Thus, in terms of status and power the formation of fields appears to intensify differences between organizations. Though fields should primarily be understood as analytical constructs (DiMaggio 1983), they also clearly have an objective existence “out there,” as they do shape both the identities and activities of the involved actors.

Together with defining organizational field, DiMaggio and Powell’s (1983) article contributed a typology of mechanisms that both account for and bring about increasing isomorphism, namely, coercive, mimetic, and normative mechanisms. A closer look at the interconnectedness of these mechanisms reveals the impact of regulation on field formation and development. DiMaggio (1983) showed that state expansion had a profound impact on the field of arts. Through issuing binding rules and administrative decisions, the acceptance of which was a condition for the approval of certain grants, the state exerted coercive pressure on organizations in the field. Through such regulatory measures, the state also exerted more indirect influence on the other two isomorphic processes – mimetic and normative processes. The most enduring impact of state support, DiMaggio argued, may not be the direct effects on individual organizations, but rather indirect influences on the overall structure of organizational fields (DiMaggio 1983: 148). Those arts organizations

that gained state support came to be perceived as more successful by their peer organizations and hence tended to be imitated (DiMaggio 1983). Thus fields form as a result of regulations and state support, and imitation in turn appears to be stimulated by the formation of fields. We will return to the issue of imitation below, but first will consider the changed role of states and transformed modes of regulation, which have clear impacts on how fields are formed.

The papers by DiMaggio (1983) and DiMaggio and Powell (1983) were written during a period of state expansion and increasingly complex and rationalized state intervention. The situation with regards to higher education started to change in the late 1980s (Hedmo 2004), concurrently with the transformation of regulatory states (Moran 2002, Djelic/Sahlin-Andersson 2006). These changes in the role of states as regulators do not imply, however, a retreat of regulation; rather, new groups of regulators and regulations have emerged and grown in importance (Knill/Lemkuhl 2002). Many such regulatory organizations are of an international or transnational character (Boli/Thomas 1999). The actual formulation of rules is not necessarily initiated by governments, but rather is often initiated by non-state actors having strong ideas about what is appropriate behavior in society. They struggle to protect their particular collective interests and to establish the ‘rules of the game’ by persuading, bargaining, and negotiating with other actors, including states (Risse-Kappen 1995, Keck/Sikkink 1998; Knill/Lehmkuhl 2002). Several studies have shown how non-state actors have rapidly acquired greater legitimacy and influence in the creation of soft rules such as policies, standards, recommendations, and guidelines (Loya/Boli 1999, Brunsson/Jacobsson 2000, Knill 2001, Hedmo 2004, Mörtz 2004 Djelic/Sahlin-Andersson 2006). Not all the activities – exchanging information, monitoring, and standardizing – initiated by this broad set of actors are intended to serve regulatory functions. However, as new elements such as scrutinizing, evaluating, and standardizing emerge and build upon each other, they become increasingly and intensively intertwined so that they together constitute an organized ‘regulatory knot.’ Even if no single actor controls the regulations issued or even seeks to govern by issuing regulations, together these monitoring, rule-setting, and assessment activities form a field that regulates.

## **Imitation and Field Formation**

Imitation follows and intensifies when fields are formed. We suggest, however, that imitation is more fundamental than most studies of organ-

izational fields have assumed, not only developing in organizational fields but actually being central to their very formation (Hedmo *et al.* 2006). Imitation is thus the basic means whereby fields develop and become recognized as a particular area of institutional life. Imitation is a basic social mechanism tying people together (Tarde 1890/1962, Czarniawska/Sevón 2005), as actors tend to imitate those they wish to resemble (Sevón 1996). As certain models, actors, or practices become widely known, these shape the wishes, ideals, and desires of others and thus provide the impetus for further imitation. Thus, perceived identity shapes imitation: one imitates those to whom one relates and with whom one identifies. The opposite is also true, however, in that imitation shapes identity. Imitation constructs new relationships and references and opens up new avenues for comparison and for creating new identities (e.g., Sahlin-Andersson 1996, Sahlin-Andersson/Sevón 2003).

Imitation is an active and performative process (Sevón 1996, Sahlin-Andersson/Sevón 2003). The results of imitation may thus turn out to be quite different from the imitated model, a phenomenon variedly referred to as recombination (Westney 1987), accretion (Rottenburg 1989), hybridization (Boyer *et al.* 1998, Djelic 1998), translation (Czarniawska/Sevón 1996), and editing (Sahlin-Andersson 1996). These different terms emphasize the importance of understanding how ideas are translated, shaped, and changed through imitation processes. What is being transferred from one setting to another is not an idea or practice as such, but rather accounts and materializations of a certain idea or practice. Such accounts undergo translation as they spread, resulting in local versions of models and ideas in different local contexts (Czarniawska/Joerges 1996). Even in a globalized world, differences between continents, countries, sectors, and industries have an impact on how widely disseminated knowledge is translated and applied in a given local context. Models bearing the same label may acquire different local “flavors” as they are adopted and developed in different settings.

Even though many studies have pointed out that imitators combine ideas from various sources in various ways depending on the situation (Westney 1987, Rottenburg 1996), imitation still seems to be understood primarily in terms of individual relationships, in which single actors imitate one or several models. Our studies suggest, however, that greater emphasis should be placed on the complex webs of imitation processes where several imitation and translation processes may be interconnected, and where one process of imitation may lead to another. Furthermore, imitation does not always proceed from those imitated to those imitating. Many persons and organizations act as carriers and/or mediators (Sahlin-Andersson/Engwall 2002). If such carriers were only passive



mediators “passing on” ideas and models to others, there would be little point in paying attention to them. John Meyer (1994, 1996) has used the term “others” (inspired by Mead 1934) to describe such persons and organizations with their specific features and activities, thereby distinguishing them from “actors,” which are assumed to pursue their own interests and policies and are held responsible for their actions. Even though “others” may present themselves as neutral mediators, they engage in activities that are crucial for the circulation and translation of ideas; they not only report on and transmit ideas and experiences, but also formulate and reformulate, and thus frame and reshape them in the process. Again we find that while imitation may at first glance appear to result in organizations becoming increasingly similar, imitation can also result in variation and differentiation.

We now turn to our empirical example – the formation of the global organizational field of management education – in which we will particularly highlight the intertwined dynamics of imitation, (soft) regulation, and field formation.

## **The Expansion of Management Education**

Business schools and management education programs began in the United States and Europe in the late nineteenth and early twentieth centuries. In the United States, the Wharton School of Finance and Commerce was established under the auspices of the University of Pennsylvania in 1881, and before the end of the nineteenth century, the University of California and the University of Chicago had taken similar routes. In 1900, the Amos Tuck School at Dartmouth, the first exclusively graduate business school in the United States, was created under the auspices of Dartmouth College, and in 1902 the highly esteemed Harvard Business Graduate School (HBS) was established at Harvard University (Hugstad 1983).

Until the mid nineteenth century, management education in Europe was mainly supplied by technical or commercial schools outside the bounds of national higher education systems. For instance, in 1881 the Ecole des Hautes Etudes Commerciales was established as the first management school in Paris, an initiative followed by the establishment of other prestigious *écoles de commerce* across France. In the same decade, German management schools or *Handelshochschulen* were set up in national commercial centers such as Aachen, Cologne, Leipzig, and Berlin. In 1909, the first business school was established in Sweden with the

founding of the Stockholm School of Economics (for a complete list of such schools, see Engwall/Zamagni 1998: 5, 8).

If the turn of the previous century saw the birth of management education, the 1950s and 1960s saw its boom both in Europe and in the United States. The Second World War was a milestone in the history of management education, as it paved the way for the rapid expansion of institutions in Europe, providing courses in management on the basis of American ideals. From the 1980s onwards, in the wake of mounting international activity by business schools, management programs again enjoyed a remarkable expansion. Trends toward globalization, market deregulation, and rapid economic growth put pressure on managers around the world to adopt a more internationally oriented management style. This need was met by the rapid expansion of international MBA programs, and business schools started to cooperate across national boundaries, offering joint programs and degrees. The effect of all this activity was an expanding international market for management education, in which MBA programs formed a central part.

### Imitating an “American Model”

Even though historical studies of the development of management education in Europe inform us that early European institutions such as “schools of economics” and German *Handelshochschulen* constituted important prototypes when establishing new schools in countries such as Sweden, the U.S. model is the one most widely imitated in Europe (Engwall/Zamagni 1998, Gourvish/Tiratsoo 1998). Although the American higher education system is highly diverse, talk about *an* American model is very common. Such talk generally refers to the model of a university-based graduate business school offering MBA programs (Locke 1989, Engwall/Zamagni 1998). Model business schools include those of Chicago, Harvard, Northwestern, Stanford, and UCLA (Engwall/Zamagni 1998:10). The expansion of management education in Europe since the 1950s thus exemplifies one particular track of imitation, namely, a shared reference to a U.S. model of management education and the traceable imitation of U.S. business schools and programs such as the Harvard Business School and the MBA program.

This European imitation of a perceived American model has occurred through several avenues. One such avenue is personal travel: individual scholars from various European educational institutions have visited U.S. schools and brought back ideas concerning how to develop and expand their teaching and educational programs. This might not have occurred as part of any general or explicit plan, but may simply

represent an effect of the increasing mobility of researchers. A second and more strategic and planned avenue has been the articulated desire of European schools to become more like their American counterparts, and to develop their own status and the reputations of their scholars and students. Such strategies of European schools were often supported by various American and European “missionaries and managers” (Gourvish/Tiratsoo 1998) who strongly advocated the value of adopting American management ideas and activities in restoring European economies after the Second World War (Gemelli 1998, Gourvish/Tiratsoo 1998). For example, the American Marshall Plan, the European Productivity Agency (EPA), and the Ford Foundation supplied a number of European governments with money and ideals to support “best practices.” They also promoted the founding of management training centers and business schools in Europe, so as to secure the future provision of American-inspired management education in the region (Locke 1996, Kipping/Nioche 1998). Accordingly, “experiments” with American-style schools and programs flourished in Europe from the 1950s onwards (Engwall 1992, Crainer/Dearlove 1999). INSEAD in France (1958), IMEDE in Switzerland (1957), IESE and ESADE in Spain (1958), and the London and Manchester Business Schools in the U.K. (1965) are examples of European imitations of U.S. business schools. In contrast to their American models, most of them were located outside the auspices of national university systems. However, the university sector in Europe was not unaffected by the current developments.

A salient feature of the imitation of American management education in Europe was the proliferation of MBA programs. The MBA has its roots in the United States, where it has been perceived as the “jewel” of graduate management studies (Kipping/Nioche 1998). In the United States, the first MBA program was offered by the Tuck School of Dartmouth College in 1900 (Daniel 1998, Crainer/Dearlove 1999). More than fifty years later, the first MBA program appeared in Europe with the founding of the French business school, INSEAD, in 1958. In 1964, IESE set up a Spanish version of the Harvard MBA program (Puig 2003). Moving forward to 2000, it was reported that about 2,200 MBA programs were being offered by 1,150 universities, business schools, and management colleges in 126 countries around the world ([www.mbainfo.com](http://www.mbainfo.com) 2003-10-13). These programs provide clear examples of the imitation of the U.S. management education model as well as obvious attempts to spread this model to other parts of the world. In these cases, explicit reference was made to the model imitated – through using the same or similar names or through formal agreements – in hopes of sharing the reputation of the model.

## Translation and Diversity

The expansion of management education in Europe, however, is similar in pattern to other processes of Americanization (Djelic 1998) and imitation (Westney 1987, Sahlin-Andersson 1996, Sevón 1996). The U.S. models were only partly imitated: when imitated they were subject to translation and adjustment to fit into the new local circumstances. For example, with the exception of the two British business schools (Manchester and London), many of the early European business schools were, unlike their American prototypes, established outside universities and national university systems as independent schools of business.

There was also open antagonism to the American model in Europe. As time passed, European schools started to take action to protect their own identities against the encroachment of American models (Locke 1996). Increased efforts were made to emancipate Europe from the American heritage by, among other things, formulating a collective European doctrine of management education (Locke 1996, Hubert et al. 1998). From the 1980s onwards, more active steps were also taken politically in the EU to make European systems of higher education more competitive and part of a European “knowledge society” (see e.g., Kogan et al. 2000). The European Commission initiated a number of exchange programs and efforts to achieve transparency in the higher education systems of member states, and to create a strong competitive advantage vis-à-vis the Americans and the Japanese (Rosenthal 1991, Ryba 2000). After the signing of the Maastricht Treaty in 1992, the EU authorities articulated more emphatically the relevance of developing a European dimension based on common European values. This dimension was to inform higher education systems (including management studies), but without infringing on the sovereignty of the member states when it came to determining the content and organization of their individual educational systems.

The proliferation of the MBA program in Europe provides a significant example of a U.S. model that has been widely imitated, and has assumed quite different forms in the process. Even though MBA programs in Europe all came to adopt the same label, considerable variation arose as the model proliferated, since the MBAs were embedded in different local contexts. The variation of MBA programs in Europe arose partly from national differences, partly from variation in the models imitated, and partly from the timing and procedures of the initiation of the programs (Sahlin-Andersson/Hedmo 2000, Mazza et al. 2005). However, all these programs share the “MBA” label and are, at some level at least,

regarded as comparable and as belonging to the same management education category.

To sum up, management education in Europe might at first sight seem to be a homogeneous field sharing common models and standards rooted in the American context. However, when we look more closely, we observe that management education programs, including MBAs, are offered in a variety of settings and institutions, including both independent business schools and university departments operating both within and outside the framework of national educational systems. Because of adaptation to regional and national contexts and the only partial imitation of the “U.S. model,” European business schools and MBA programs differ greatly, both from their American counterparts and from each other. Furthermore, since educational issues have traditionally been national concerns, historically, there has been no common system for regulating or comparing educational offerings (Hedmo 2004). However, in the late 1990s, two distinct systems for assessing and comparing management education at the international or transnational level were constructed and launched in Europe. These systems were provided by observers and mediators of management ideas and practices, actors that played important roles in both imitation processes and in making the management education field more global.

## **Mediating and Regulating Organizations**

In addition to schools and individual scholars, a number of observers and mediators of ideas and experiences, such as experts, international organizations, consultants, and publicists, have been active in the imitation processes and in contributing to the formation of an organizational field of management education. We will single out the assessing and evaluating organizations, such as accreditation bodies and the media, as they have produced information and comparative ratings, reported on and proposed initiatives for change, and formed arenas for the exchange of experience, ideas, and ideals. In addition, and as will be further outlined below, these organizations have formulated and implemented soft regulatory measures, such as standards, guidelines, and criteria for assessing and comparing management education programs. In so doing, these organizations have also become important parts of the transnational regulatory set-up of management education.

## Accreditation

In the 1990s, when the number and variety of business schools and competing management education programs was increasing dramatically in Europe, the issue of accreditation was raised in the European Foundation for Management Development (efmd), a professional organization in the field of European management education. The idea of developing a European accreditation system for European business schools initially met with an unenthusiastic reception from most efmd members. The appropriateness of developing a uniform system for the quality evaluation of business schools within the fragmented area of management education in Europe was questioned. However, attitudes changed when it became known that the main U.S. accreditation organization for management education, the Association to Advance Collegiate Schools of Business (AACSB International), was planning to start accrediting European business schools on the basis of U.S. standards. Efmd members then realized the importance of reacting and responding to the AACSB International strategy, to “defend and promote European values” by constructing a consistent European system (interview, efmd board member, 2000-11-08). Efmd also had organizational motives for launching this program: it was, for example, seen as a way for the organization to boost its financial profile and reputation in the management education market in Europe and elsewhere. More generally, the efmd strategy was also related to the expansion of the European Single Market, and political arguments for creating a common higher education area. Accordingly, in 1997 efmd launched the European Quality Improvement System (EQUIS) to be a European equivalent to the U.S. accreditation system (efmd 1998). To deal with resistance and diversity in Europe, EQUIS was formed and prepared in cooperation with European national accreditation organizations within an independent unit called European Quality Link (EQUAL). Even though the AACSB International accreditation system was severely criticized by most efmd members, the European accreditation scheme was formed partly in imitation of this U.S. model, and partly in imitation of the various schemes and standards of EQUAL members – albeit, national translations of the U.S. model. To accommodate the diversity of European management education organizations and programs, and to “guarantee” the system’s survival in Europe, EQUIS was equipped with a “flexible approach” allowing for the continuous development and refinement of the accreditation scheme, so that it would fit the fragmented European context. Also incorporated in EQUIS was the “European dimension” of management education, mainly being understood as an emphasis on efforts to internationalize schools and on

connections with the business world (interviews, EQUAL project manager, 1999-10-05; EQUIS director, 1999-06-16).

After an initial period of doubt on the part of European management education providers, EQUIS accreditation spread widely in Europe and elsewhere. The system adopted an inclusive approach, accepting a wider range of educational organizations. By May 2006, 92 management education institutions had been accredited after undergoing the EQUIS quality assessment process, and many more schools had announced interest in undergoing the assessment. This new accreditation process prompted schools to look at and imitate each other; as well, schools came to imitate the model captured by the published accreditation criteria – at least during the self-evaluation and self-presentation undertaken during the accreditation process.

## Rankings

Arguments and reactions similar to those that arose in response to the initiation of accreditation can be identified as we trace the development of media rankings of business schools and MBA programs. The development of these rankings is linked to the general expansion of management education, and to a specific increase in media interest in it. Moon (2002) shows that media coverage of management education increased significantly, in both the popular and academic business press, in the early 1990s. Of particular media interest were the MBA programs that had spread and became institutionalized around the world. As more publications increased their coverage of management education issues, competition between them led to the publication of more, and more comprehensive, rankings of business schools and MBA programs. After the *Financial Times* international ranking was launched in 1999, *Business Week* followed suit with an international ranking in 2000, the *Wall Street Journal* in 2001, and the *Economist* in 2002.

While rankings were not new in management education, these *media-initiated* rankings launched a new, international perspective on business schools and MBA programs. The decision by the *Financial Times* to produce an international ranking list was largely in reaction to the proliferation of ranking lists of American institutions in U.S. media, predominantly in *Business Week* and in *US News & World Report* (which had produced rankings of U.S. schools since the mid 1980s), and to increasing press coverage of business schools in the United States. European business schools feared the dominance of U.S. schools would become too great, as ranking lists of American business schools grew in prominence outside the United States. They lobbied the *Financial Times*

to initiate an international ranking list that featured schools outside North America. These European rankings thus arose in reaction to a perceived U.S. dominance, and have provided a way for European schools to be compared with these U.S. schools and to be perceived as belonging to the same “top league.” Initially, the *Financial Times* intended to “bridge” differences between the American and European MBA markets, but has since increased its rankings to cover business schools globally.

International rankings have redefined institutional positions in the field and now cover European schools to a greater extent than before. In this way, they have mediated and “edited” business school models and ranking criteria so that they better fit the characteristics of European schools. Creating “global” ranking lists and international comparisons of business schools and programs proved to be difficult, however, and finding criteria that encompass differences between national contexts and systems, and within a large and diverse set of management education programs, was a lengthy process. After a failed attempt in 1998, the *Financial Times* consulted business schools in the United States and in Europe to develop their approach and criteria. Despite the fact that quite a few ranking lists have come to include more European schools and more “European” criteria, the opinion seems to persist that rankings in general promote and continue to perpetuate an “American model” of management education:

“It is questionable whether rankings can be based on criteria uniformly applied to all schools irrespective of their strategy and philosophy. The current rankings rely on a very specific (North American) model of what and how business schools should be set up to do [sic]. This model itself is very questionable.” (Survey comment, European business school dean)

An interesting feature of the development of both accreditation and ranking in Europe is that these systems have developed partly in reaction to existing evaluation systems, and also in reaction to a U.S. model of management education and to the perceived dominance of this model even in Europe. There is an endeavor to enhance the specifically European perspectives inherent in both the accreditation and ranking procedures. If we look at how these systems are set up, however, it is clear that they are largely influenced by U.S. models and have themselves been formed through processes of imitation and editing. Through making international comparisons between programs and schools, these assessments have been fundamental in forming the identities and roles of



business schools and other management education providers in the emerging global field of management education, as we will explore next.

## **An Emergent Global Field**

The development of ranking and accreditation systems by actors such as professional associations and the media is not simply a response to the proliferation of management education programs and schools in Europe and elsewhere, and thus to the global expansion of management education. The development of ranking and accreditation has also helped drive and shape this very expansion and the imitation processes operative between and among schools and individuals. Ranking and accreditation systems do so by providing assessments, comparisons, and evaluations, and by constructing a global model that providers and observers of management education can follow. Such a model has also been constructed through processes of imitation: the accreditation and ranking bodies imitated other ranking and accreditation systems, themselves formulated in cooperation with prestigious business schools. The importance of international rankings and accreditation thus lies primarily in their ability not simply to define a particular group, but also to acknowledge conformity to an abstract model of what a business school is and what proper management education should entail. Such a model serves both as a template against which individual schools are compared and assessed, and as a prototype for schools and management education providers to imitate.

A central component of this template and prototype is the MBA program. An MBA program is considered a core feature of a business school, and is believed to be necessary if an institution is to be a “true” business school and a member of the “top league.” This is enhanced by international ranking lists, which focus mainly on full-time MBA and sometimes also on executive MBA programs, and is supported by the accreditation procedures, which use business school model assumptions in making their evaluations. The strength of the model and the central role of the MBA partly explain why the number of MBA programs on offer is still increasing. For example, Copenhagen Business School and Stockholm School of Economics started full-time MBA programs in the early 2000s, as strategic initiatives to strengthen their international profiles and to be considered “full-fledged business schools” eligible to participate in the rankings. Rankings and accreditation thus contribute to the formation and dissemination of a global business school model.

Rankings and accreditation have also themselves become important features of this model. To be considered part of the “top league” and to adhere to the model, it is important for business schools to have the

quality label and certificate of accreditation, and to be highly rated in the published rankings. Results from our survey of European business school deans indicate that business schools consider international accreditation and rankings to be the most important sources of reputation and status, even more important than, for example, national quality labels, alliances, or participation in professional networks (Wedlin 2006). Staying outside the rankings is not considered an option, at least not “if you want to run a major MBA school in the international market” (director of a European business school). The growing importance of ranking and accreditation systems for reputation and status in the field has led to the continued expansion of MBA programs, as noted above; it has also led to increasing interest in and attention to how the business school is presented to the public, for example, in the media. Along with the pressure to submit information, the desire has grown within the schools themselves to structure the information issued to the media more carefully, and to strive to increase press coverage of their schools and programs. Thus, external relations functions, such as PR departments, media offices, and press officers, have recently been established in almost all top business schools. Business schools’ PR efforts and attempts to attract media attention suggest that they are actively participating in constructing and disseminating a model of what proper and “good” business schools should be like, and how they should present their work; in so doing, they are also helping to structure the global business school model.

As is true of most actors, be they individuals or organizations, providers of management education strive to be well regarded – they strive for recognition, respect, and reputation. This is nothing new. What is new, however, is the wide audience that is now aware of such reputations and the large group of schools that is now being observed and compared by the same or overlapping audiences. Accreditation and ranking systems have prompted schools to devote greater energy to how they present themselves. Moreover, such self-presentations are shaped in relation to the accreditation and ranking templates. Thus the ranking and accreditation systems themselves structure the emerging field in terms of who is in and who is out, who is central and who is peripheral, and what counts as good management education. In this way, by framing and driving imitation they are active mediators of imitation; in other words, they are central to forming and developing a global field of management education.

## **A Global Field of Management Education**

Our analysis has served to reveal the dynamics of the formation of a global field of management education. We have pointed out intertwined and mutually reinforcing processes of imitation and regulation, processes through which a global field – and market – of management education have formed. This field is clearly structured around a global model and a set of central actors. In tracing the spread of management education we noted that several schools and programs developed into prototypes to be imitated. Despite this, expansion has led to considerable variation. Hence, if we only look at interactions among schools, the dominance of the more prestigious programs is not so evident. When we add the development of monitoring and regulating measures to the picture, the circulation of ideas, ideals, and prestige displays a more complex pattern, but one in which the dominance of the leading schools appears to be more profound. Regulations have been formed on the basis of criteria that were largely adopted from the most prestigious schools. In addition, representatives of these schools appear as central actors in a number of regulating bodies and activities, and their participation was crucial for the initiation of the new regulatory systems in Europe. Hence, even though the European management education field may at first glance not appear to be hierarchical, but rather gives the impression of being quite dispersed and decentralized, closer examination reveals a highly centralized and stratified structure wherein a few schools appear not only to be regarded as models to be imitated, but also tend to become templates for shaping regulations and assessments.

## **Management Education as a Forerunner?**

After our detailed analysis of the emergence of a European and global organizational field of management education it is time to return to the question posed in the introduction to this chapter: Can we expect higher education in general to follow the same development path worldwide? The history of higher education is of course quite different from that of management education. Universities include some of the oldest organizations in existence, and in many parts of the world they have remained amazingly robust and retained many local and national particularities, despite having been embedded in global and international networks all along. We can thus expect universities in general to be more robust and resistant to transnational processes than the specific management education institutions discussed above. On the other hand, we now see many

of the same transnational dynamics in play in universities in general as are found in the specific emergent field of management education. We have witnessed many phenomena: massive expansion in the number and size of higher education institutions, increased internationalization characterized by the escalating mobility of students and teachers across national boundaries, increased co-operation between academic departments and programs, the appearance of new forms of regulation, and efforts (including accreditation and ranking systems) to compare and standardize higher education between countries. These developments appear to be ushering in a global university model that serves both as a prototype to be imitated and a template used in assessing and monitoring. It remains to be seen to what extent this model will become of such importance that it will result in identity-shaping processes around the world. Recent developments, including the Bologna process, university rankings, intensified efforts to compare and coordinate universities around the world, and the many local reform and reorganization efforts that have ensued, clearly indicate that a global organizational field – and market – of higher education is in the making. We can expect that with the emergence of such a field universities will become increasingly similar in their appearance, but also clearly differentiated in terms of status and power.

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**Part III:**  
**University-Industry Relations.**  
**Historical Legacies and New Forms**



# **From Managerial to Entrepreneurial: Universities and the Appropriation of Corporate-Based Paradigms. An Historical Perspective from Europe and the United States**

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KENNETH BERTRAMS

## **Introduction**

During the past twenty-three years, universities have increasingly attracted attention as sources of inspiration for regeneration of industry or as sites of industrial innovation in itself. Traditionally, it is argued, universities have resisted this task, fearing that economic pressure and commercial interests might jeopardize the fundamental Humboldtian university values of “*Wissenschafts-, Lehr- and Lernfreiheit*” – intellectual freedom, autonomous search for truth, and basic research into problems formulated and pursued only for the sake of extending the frontiers of knowledge (Moraw 1984). However, by stressing out the complex mechanisms of interaction at stake between academic and business environments, recent sociological studies have challenged this oversimplified description. For sure, the ongoing rationalisation of the academic structure, the growing process of institutionalisation of industry-university connections (technology transfer offices (TTO’s), spin-off companies, science parks, incubators, etc.), as well as the standardization of teaching and research criteria – put it briefly, the core elements of academic “modernization” – have contributed to render the “organizational shift” more visible to researchers. Moreover, with the help of a pompous rhetoric – “new production of knowledge”, “second academic revolution” –, the role of universities in the “knowledge society” tends

now to be perceived as their “third mission” after teaching and research. This shift has undoubtedly paved the way to a profound transformation of knowledge norms within the academic community in general (Etzkowitz 1989), but it has also contributed to rephrase the conceptual framework through which research on universities is carried out.

However abundant and convincing the sociological evidence might be, it remains necessary to point out that the double process of organizational and structural academic change did not emerge *ex nihilo* in the last decades. Nor have these two trends occurred coincidentally or affected the universities worldwide equivalently, although it is true that patterns of homogenization can be tracked within various academic systems. In discussing the historical transformation of strategy and structure encountered by universities in Western Europe and the United States, I would like to question the connections between the rise of the model of the research university and the emergence of managerial conceptions in the reorganization of the academic sphere. That such linkages currently prevail does not imply that they were bound by necessity. Conversely, one should wonder how national academic systems would have responded to the increasing demands for scientific performance, the use of criteria of employability, and the adoption of better methods of governance stemming from and outside university milieus if it had not taken the paths of corporate-based rationalization.

In this paper, I will first attempt to show that the managerial view can be traced back (although not be reduced) to a long process of industry-university partnerships in teaching and research since the turn of the century up to World War II. Then, by focusing on the various models of academic organization, the second section will confirm that, despite common perceptions, the responsiveness of European and American universities to the societal changes has been permanent. In other words, I intend to carry on by different means the deconstruction of the myth of the “ivory tower”, which has been frequently instrumentalized by the advocates of academic modernization. Recently, the “entrepreneurial” conception of the university has been credited for the viable alternative it provided to the decrease of public expenses for higher education. This latter stage is mentioned in the concluding remarks.

But before turning to the extensive development of these arguments, it might well seem appropriate to try to define precisely what is actually meant when using such terms as “entrepreneurial” or “corporate” referring to universities (Keast 1995). As a matter of fact, there are a wide range of plausible expressions, which are by no means mutually exclusive (they rather complement each other in the field of practices [Cary/Watt 1999]):

- The extension of research, teaching, or financial partnerships between universities and corporations;
- The growing financial pressure exerted upon universities;
- The assimilation of corporate culture (e.g. managerial practices, accounting techniques, technocratic rhetoric) by the academic community;
- The design of university curricula and degree programs in function of corporate needs;
- The reorientation of scientific research towards corporate demands.

## **1. The Extension of the Research-Oriented University**

The transition from the university in the original Humboldtian guise to its later development has bred lasting discussion among scholars. The ways by which German universities and their equivalents in Europe have progressively shifted from the scientific idealism of transmitting knowledge to the ideal promoting the advancement of a specialized research-based knowledge remain unclear. Clearly, the transformation of nineteenth-century European nation-states, with their corresponding trends of secular institutionalization and bureaucratization, has played a key role in this process. Another complementary approach consists in plainly acknowledging the fact that the Humboldtian set of reforms did provide the scientific framework on which the renewed autonomous institutional setting could take place, an appropriate setting “which later came to be co-terminous with the modern research-oriented university” (Wittrock 1993). The implementation of the modern composition of the university proved to be effective not only in continental Europe, but also in the United States where it was soon perceived as the “standard American University” by contemporary acute observers like Edwin Slosson, Laurence Veysey, or, to a certain extent, Abraham Flexner (Geiger 1985).

However fruitful and persuasive, the picture of the global research university such accounts should not overshadow the piece of evidence that, by the turn of the century, European and American universities remained by and large teaching institutions, where research activities were conducted by a minority of professors in their private laboratories. In fact, the infrastructures as well as the financial resources available for the support of university research in the years prior to World War I were mostly irregular. That is why, despite the gains of institutional and scientific autonomy, universities were not socially exclusive. They tried instead to constantly adapt to the situation by fostering voluntary dona-

tions, appointing personalities outside academic milieus as trustees or members of the Board of Directors, and becoming more responsive to the growing demands of modern societies. In this sense, two salient features should be borne in mind. Firstly, it was not uncommon that scientists sought to carry out their investigations with the help of private companies by the way of expertise or part-time consultancy. Such linkages were numerous, although uneasy to assess for the historian due to their informal nature. Secondly, in the wake of the “*Akademisierung*” of “useful knowledge” (Geiger 2000, Rae 1979), teaching capabilities became also effective in universities for vocational matters. The development of entrepreneurial knowledge for commercial and business needs fits also in this category (Locke 1984).

### **1.1 The Modest Scope of Industry-University “Research” Partnerships**

When searching for the origins of the relationships between science – and especially academic or university-based science – and industry, one is somehow confronted to the egg-or-chicken paradox. On the one hand, modern industrial achievements have been made possible by the “translation” and application of scientific progress; on the other, the ever-growing needs of the railroad, the telegraph, and the wide array of new industries brought a multiplication in the demand for qualified personnel and the corresponding creation of vocational higher education establishments. Moreover, as the examples of Liebig in Giessen and Pasteur in Lille clearly show, scientists adhered to a conception of science freed from industrial needs (symptomatic of the closing of the “useful knowledge”), although their research interests were inspired by practical issues (Weingart 1978). The American experience in practice-oriented higher education differs slightly from that of the European scene. While in Great Britain, France and Germany, engineering subjects were taught in separate institutions (civic universities, “*grandes écoles*”, or “*Technische Hochschulen*”) inducing a dual system of higher education, in the United States such subjects were introduced early on in university curricula.<sup>1</sup> Nonetheless, most of the first interactions that operated between science and industry during the most part of the 19<sup>th</sup> century not only

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1 Yale inaugurated its first courses in mechanical engineering in 1863, and Columbia University opened its school of Mines the year after. It must be noted, however, that specific institutions were also established in the United States (MIT in 1865 and the Stevens Technological Institute in 1871 to name a few) and that in Belgium engineering schools were directly integrated in the academic system.

took place outside the location of universities, they also occurred out of the collective configuration of academic communities. They mobilized cross-individual channels from various social and professional milieus typical of the pre-institutionalized era. Symptomatic of these inconsistent linkages were the rising activities of consultancy performed by scientists for the local industry.

Following the generalization of the use of (mostly informal or tacit) knowledge for industrial purposes during the 19<sup>th</sup> century, industrialists progressively overcame their reluctance to employ university-trained technicians, engineers, or scientists. Qualified experts were called up for technical advices regarding instrumental devices, amelioration of production process or other interventions that required minimal scientific examination – and in any case could be coined as “research activities” (Fox/Guagnini 1999). Most of the time, for practical reasons, expertises and consultancy missions undertaken by scientists took place directly in the factory, for an irregular span of time, and with very limited established constraints. Andrew Carnegie witnessed this limited form of science-based innovation:

“We found [...] a learned German, Dr. Fricke, and great secrets did the doctor open to us. (Ore) from mines that had a high reputation was now found to contain ten, fifteen, and even twenty percent less iron than it had been credited with. Mines that hitherto had a poor reputation we found to be now yielding superior ore. The good was bad and the bad was good, and everything was topsy-turvy. Nine-tenths of all the uncertainties of pig iron making were dispelled under the burning sun of chemical knowledge. What fools we had been! But then, there was this consolation: we were not as great fools as our competitors [...]. Years after we had taken chemistry to guide us (they) said they could not afford to employ a chemist. Had they known the truth then, they would have known they could not afford to be without one.” (Rosenberg 1985)

The “burning sun of knowledge”, which Carnegie referred to, could take various paths. Once again, the so-called “scientification” of industry that followed the second industrial revolution mainly consisted in few technical improvements eventually leading to major industrial breakthroughs. The Bessemer process for mass-producing steel from molten pig iron did transform the general industrial and economic landscape although it did not involve the assimilation of complex scientific knowledge. The same is true for the invention of the multistage Solvay process for the manufacture of sodium carbonate that replaced the energy and



labour-intensive Leblanc process.<sup>2</sup> To repeat, pioneer industry-university connections usually stemmed from interpersonal networks, presupposed few or any approval by academic authorities, and did not demand specific requirements (Auger 2004, Sanderson 1978, Tweedale 1991). For some professors, and this was especially true within engineering departments, this industrial experience was more than a “service” offered to the community; it enabled them to pursue the same kind of practice-oriented experimentations they would have normally assumed in the locus of their university if only they had the appropriate infrastructure at their disposal. The poor conditions of academic research facilities also contribute to explain the eagerness with which, beyond the promise of supplemental private funds, professors were acting as industrial experts. Put it more bluntly, and permuting Clausewitz by the way, one could go on by saying that these forms of industry-university interactions were the continuation of academic research by other means.

## 1.2 Increasing Institutionalization

The modern paradigm of industry-university research partnerships, however, traditionally dates back to the complex interplay that took place during the last quarter of the 19<sup>th</sup> century between German academic laboratories and chemical plants such as BASF, Bayer and Hoechst – i.e. mainly in the coal-tar industry. Usually, three evolutionary stages are distinguished in the relationship: the erratic expertises undertaken by top-level members of scientific faculty for industrial purposes; an increasing formalization of previous sporadic activities through the launching of industry-sponsored research groups; finally, the development of in-house research laboratories staffed with university-trained chemists (Johnson 1985, Wetzel 1991). These research activities, whose different phases enabled the transition from faculty-industry to university-industry relationships, have attracted the attention of historians, eager to speak about the “industrialization of invention” in the light of the emergence of the science-based industry (Homburg 1992, Meyer-Thurow 1982) or to pinpoint the role of exceptional individuals in the shaping of a renewed alliance between scientific and industrial environments (Johnson 1992). From the beginning of the 20<sup>th</sup> century onwards, other industrial branches, which required scientific knowledge and innovation to expand their process and products (pharmaceuticals, photochemicals, etc.), would follow suit and emulate the patterns of coopera-

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2 Interestingly, neither Henry Bessemer nor Ernest Solvay has received formal higher education.

tion observed in the coal-tar industry. As the number of industrial research laboratories increased, direct linkages involving university professors gave way to more complex forms of partnerships.

Interestingly enough, a so-called “pure science” led the way in the strengthening of research industry-university partnerships. Physics, and especially precise measurements, would create the same impetus for industrial research that organic chemistry had previously generated on the whole development of the flourishing synthetic dyestuff industry (Gooday 1990). At the eve of the 20<sup>th</sup> century, nonetheless, things started to change. Fields like chemical engineering and electrical engineering were institutionalized in American and European universities and were rapidly equipped with research facilities. It clearly reflected the predominance of disciplines of applied science – from “shop” to “school culture” – and the corresponding rise of the engineers as an influential professional and social group (whose perseverant lobbying to continuously adapt academic curricula to industrial needs cannot be understated [Lundgreen 1990]). The institutional background did not remain unaffected by the sudden legitimization of technological knowledge in higher education. In Germany, a form of “division of academic labour” prevailed: universities continued the teaching and research of chemistry, whereas electrical engineering became a special field in the *Technische Hochschulen* (König 1995, König 1996). The rigidity of this dual structure was somehow neutralized by the scientific prestige of technology-oriented research institutes, like the *Physikalisch-Technische Reichsanstalt* and, most certainly, by Kaiser Wilhelm’s decision to give *Technische Hochschulen* the right to grant doctoral degrees, ensuring them co-equal status with universities (albeit no immediate academic recognition) from 1899 onwards (Cahan 1989, Manegold 1970).

In France, despite the implementation of the Parisian “grandes écoles” (Ecole des Ponts et Chaussées, Ecole des Mines, Ecole Polytechnique, Ecole Centrale des Arts et Manufactures), whose actual impact on the national innovation system should be reappraised (Belhoste 2003), experiences of industry-university partnerships mainly took place in the French Provinces. Under the influence of the German model, Mulhouse and the Alsace region can truly be considered as the seedbed of partnerships between local industrial sectors and academic departments (Olivier-Utard 2003, Shinn 1979). The analogy with the British case in this respect is striking: the Oxbridge administration in England was quite unwilling to foster the integration of practice-oriented engineering courses in its curriculum. The development of civic (redbrick) universities was a challenging response to the apathy of the elite higher education in this domain (of course many exceptions could be observed

on the individual stance). In Manchester, Glasgow, or Sheffield, the linkages between the academic and industrial environments clearly played a major role in the shaping of a curriculum in conformity with local needs (Sanderson 1972). Thus, the European experience, as diverse as it was, could stand the comparison with the American schools of engineering. Prior to World War I, the scientific excellence of some European technology-oriented research institutions, especially in the field of electrical engineering, and the performances realized by the MIT were pretty much akin. The differences were twofold: they laid in the mixed cultural appreciation of the needs of private firms to conduct research (with or without universities), on the one hand, and in the scope of industry-university cooperation – at national level in the United States, local in Europe –, on the other (Rosenberg 1994).

### 1.3 Cooperative Research

The institutionalization of research in industry has been one of the most striking phenomenons of the social history of twentieth century science and technology. Although for some major American firms from both electrical (General Electric, AT&T) or chemical industrial sectors (General Chemical, Du Pont, Kodak), the development of in-house research laboratories started around the turn of the century, the bulk of corporate research settings were established between the two world wars. Several factors explain the emergence of industry-based research and development: the complex structural reshaping of corporate capitalism, the merger movement following anti-trust laws, the necessity to use patents in order to keep existing markets and obtain new ones, the tendency to tame the process of scientific invention through organized cooperation (Mowery/Rosenberg 1998). The war gave this trend a remarkable impetus as scientific, industrial and government milieus mixed together to organize efficient military strategies. Joint science-industry institutions were set up in Europe and the United States for wartime purposes (the Department of Scientific and Industrial Research in Great Britain, the National Research Council in the United States) but their efforts, as successful they might have been, were put on hold after the end of the conflict, primarily because national governments ceased to approve their funding (Hull 1999, Kevles 1971). Still, both scientists and industrialists became aware of the range of possibilities that the application of scientific research could generate. On a practical stance, however, the borders between “pure” and “applied science” remained very porous. As Michael A. Dennis once put it, the specific engine of both industrial and

academic research, the laboratory, was a “portable” argument (Dennis 1987).

Meanwhile, the war had given full credit to faculty members willing to quicken the pace of conducting partnerships with private firms. In this realm, MIT was clearly leading the way (Etzkowitz 2002, Noble 1977). From the early 20<sup>th</sup> century onwards, MIT’s electrical engineering courses had been sponsored by private firms. But chemical engineering also aroused the interest of industrialists. MIT’s School of Chemical Engineering, established during the war, experienced at a larger scale the organization of contractual research projects that had already been activated prior to the war within the Research Laboratory of Applied Chemistry, set up by William H. Walker. Nonetheless, the research projects undertaken by Walker’s staff for industrial firms (most notably for Eastman Kodak and du Pont) reached such an exceptional scope of business dependency that it awakened strong criticism from other research departments within MIT (Servos 1980). Similar controversies appeared in the case of the patenting policy adopted by the University of Wisconsin and the Wisconsin Alumni Research Foundation (WARF) following the discovery of the antirachetic vitamin D by faculty member Harry Steenbock in the early 1920’s (Apple 1989, Weiner 1987). True, such academic-based industry-oriented research projects – coined as “cooperative research” – were not far from becoming commercial ventures. On the other hand, the scope of these activities remained exceptional in relation to the majority of modest fee-for-service arrangements that were performed in other academic departments, without any objection nor much publicity (Geiger 1988).

Contrary to a widespread belief, European universities did not remain aloof. Although they were far from reaching the scope of their American equivalents, academic research laboratories were also stimulated by the upsurge of industrial R&D, especially in electro-technical ventures: Siemens in 1920, Philips in 1923, AEG in 1928 (Erker 1990). Concerns like Rhone-Poulenc and Péchiney in France organized new forms of in-house R&D structures that were closely associated to general production management. Besides, the new wave of merger movements that occurred in the chemical industry (IG Farben in Germany, ICI in England, UCB in Belgium) relied on academic science and university-trained scientists to an extent that remains to be defined. In fact, the overall activities performed by European academic research centers for industrial purposes during the interwar years – including activities of cooperative research – deserve more attention (Garnsey 1992). As a matter of fact, such a reappraisal could be made connected with the recent historical findings confirming the impact of industrial R&D poten-

tial in England and Germany before 1940 (Edgerton/Horrocks 1994, Marsch 1994, Marsch 2000, Caron et al. 1995).

## **2. The Managerial Shift**

In the decades following World War II, universities have progressively adopted “managerial” attitudes. This shift has resulted from the implementation of three main characteristics: (a) the inclusion of business-type courses for the training of business leaders; (b) the adjustment of scientific research to the norms of the marketplace; (c) the reshaping of the organization of academic administration along corporate guidelines. As we shall see, some sharp observers had already located in the early 20<sup>th</sup> century the primitive signs of this process – and most notably its segment (a). But the post-war context set the pace for an unprecedented reconfiguration of national academic systems. Two periods can be distinguished in this respect, both of them being closely related to the role of the State and the generalization of managerial ideology within the business and academic communities. Until the late 1960’s, American and West European universities benefited from the increasing funding role of the State and the profound belief that institutions of higher education had to extend their activities in the development of modern societies and the launching of technology-related national economies. From the early 1970’s onwards, however, despite the trends of academic democratization, the public expenses that were granted to universities started to decrease, forcing them to rationalize their budget and find alternative funding resources.

### **2.1 Antecedents: the Early “Corporatization” of Universities?**

In an influential article published in September 1905, Henry S. Pritchett, president of MIT, asked the question: “Shall the university Become a Business Corporate?” (Pritchett 1905) Pritchett was aware that the American university, which he knew best, was adopting organizational methods and management techniques that originally belonged to a business corporation. The most interesting point in this assertion, however, was that Pritchett had written this note for the purpose of the Carnegie Foundation for the Advancement of Teaching (CFAT), endowed in the early 20<sup>th</sup> century, and of which he had been appointed president. As the General Education Board, sponsored by John D. Rockefeller and set up at the same time, the CFAT was an influential “think tank” whose aim

was to reform profoundly the higher education system. Quite similarly to other associations established during the “Progressive era”, it was jointly composed by academics and industrialists striving to transform social structures into stabilized coherent and efficient organizations. It found in the theories of scientific management set forth by Frederick Taylor the sources of its inspiration for the development of such corporate conceptions. Unsurprisingly, shortly after Pritchett’s statement, the CFAT brought out a research study that bore the unequivocal title *Academic and Industrial Efficiency*; it was written by one of Taylor’s protégé and important figure within the progressive engineers, Morris L. Cooke.

Shortly after World War I, the unconventional sociologist Thorstein Veblen published his visionary book *The Higher Learning in America: A Memorandum on the Conduct of Universities by Businessmen*. Veblen argued therein that businessmen and lawyers were in the way of displacing clergymen as the leading social groups in the composition of governing boards and trustees at major private universities. Following the author, this shift had actual consequences – that were uneasy to pinpoint – not only on the general guidelines of university administration, but also on the remoulding patterns of the higher learning as a whole. Presumably, it was expected that, in case of emergency, wealthy industrialists and financiers would generously provide funding assistance to the universities they were enrolled in (Veblen 1957). According to the historian Clyde Barrow, the picture drawn by Veblen, although broadly valid for the overall American academic system, should be nuanced in function of the several institutional and geographic groupings that higher education establishments resorted to, i.e. ranging from Northeast private universities to land-grant colleges, where specific social composition slightly differed (predominance of financial groups, heavy industry, agriculture, etc. [Barrow 1990]).

Although challenging, the idea of the “corporatization” of universities – or “academic ownership” – analysed through the composition of governing boards bears some caveats. As a matter of fact, the traditional academic collegial system was not a priori incompatible with other forms of administration and governance. No *direct* connections between the administrative role undertaken by trustees and non-faculty members of the governing board, on the one hand, and the scientific tasks deployed by the academic community, on the other hand, can be clearly brought out (which, conversely, does not entail that *indirect* linkages did not operate). Actually, the rise of businessmen within governing boards at universities would not be a relevant issue in itself if it had not found an appropriate resonance through the integration of vocational studies in universities (Burrage 1993). In other words, the legitimization of business and engi-

neering education within academic institutions gives a far better indication on the process of academic corporatization. Most interesting in this approach, is the way by which these two rival segments of professional education did cross one another in the academic context so as to create the favourable conditions for the expansion of organized capitalism. On this peculiar stance, European universities did not lag behind American institutions or, better said, were not reluctant to catch up with US establishments. The efforts made by Henry Le Chatelier's to integrate his principles of "*science industrielle*" into the French faculties, as well as Eugen Schmahlenbach's perseverance to promote the diffusion of "dynamic accountings" and the basic knowledge of *Betriebswirtschaftslehre* at a university level are just two striking illustrations of this trend.

Despite the rapid institutionalization of university-based business schools and their diffusion throughout European campuses after the Second World War, equivalent views were not to be found in the United States prior to 1940 (Locke 1984, Tribe 1994, Redlich 1957). In a later stage, the insertion of management studies into universities, first in Great Britain, then gradually elsewhere in continental Western Europe, would confirm the ascendant of American methods of business administration, which, as Europeans would soon discover, had to be considered rather as a science than an art. The "cultural transfers" in this case had made use of three different vectors: interpersonal or informal linkages operating during the interwar years (via educational and cultural exchange agencies, philanthropic foundations, and private contacts between American and European university administrators); the development of Marshall Plan-sponsored technical assistance programs involving universities during the immediate post-war period, and finally, the direct establishment of U.S.-based educational institutions in Europe in the 1960's (Gourvish/Tiratsoo 1998, Gemelli 1998).

## **2.2 The Second Post-War and the Generalization of "Opportunistic Niches"**

Terry Shinn has convincingly argued that the social configuration of science, which prevailed after 1945, took the form of a process of "opportunistic nitching" between suppliers and buyers of scientific activities (Shinn 1999). Obviously the model also suited to universities, as they were gradually engaged in the elaboration of costly projects between academic research laboratories and private firms, and were favourably inclined to establish business schools or other forms of management training centers in their buildings. The dissemination of managerial patterns into the academic community was a direct effect of the irresistible spreading of scientific knowledge into the economy. As

spreading of scientific knowledge into the economy. As Henry Etzkowitz put it, “the introduction of economic values into science follows from scientists’ successful quest for the capital and logistical resources to achieve their objective: the extension of certified knowledge.” (Etzkowitz 2002) Conversely, what made the post-war certified knowledge so characteristic in comparison with the interwar period was its extension in the economic environment, and more precisely, its irreversible extension. The phenomenon was undoubtedly anchored in the era of Big Science, and in the willingness of outside agencies (in complement with the growing share of public support) to assist universities to cover their research activities (Geiger 1993). On the other hand, academic administrators took advantage of this situation as they started to implement new forms of managerial strategies and attract a wide array of industrial sponsorships in order to boost the potential performance and attraction of their university.

What requires our attention in this respect is the narrow connection that was soon established between the managerial way of doing academic research and the increasing perception of the university as a corporation. In this process of redefinition, key actors on the American side were men like Vannevar Bush, Frederick Terman and, in a second stage, Clark Kerr. As MIT professor and Dean of Engineering, Bush knew better than anyone else the potential impact that academic research could have on industrial innovation. For years he had himself undertaken consultancies for private firms, had hold patents and founded a company focused on the application of early electronic technology. But it was most notably during World War II, as initiator and leading figure of the Office of Scientific Research and Development (OSRD), that he made full use of his private networks among academic and industrial milieus in the Boston community in order to promote durable relationships between research universities, private firms, and federal agencies (Owens 1994). His celebrated book published at the end of the war, *Science, the Endless Frontier*, made clear the necessity to organize university-based research with the financial intervention of the State, but without its intrusion in academic affairs. The National Research Foundation created shortly thereafter embodied this conception of science-making (Kevles 1977). In a similar – albeit more explicit – approach, Fred Terman, Stanford University professor, dean of engineering, and provost (1955-1965), encouraged all activities that enabled the reinforcement of industry-university partnerships. His model of regional university-based economy, which resulted in the making of the Silicon Valley, grew out of his wartime experience as a former member of the laboratories organized by the OSRD. Like Compton and Bush, Terman’s purpose was to extend to



all academic departments the contractual model based on industrial patronage that prevailed for engineering schools. In the name of prestige and performance, university faculties were asked to adopt corporate-like measures of efficiency that would provide evidence for their scientific achievements (Leslie/Kargon 1996, Lowen 1992).

On the European stage, the regime of inter-individual research cooperation between industry and academia was not superseded by public programs. On the contrary: the presence of the State reinforced the patterns of opportunistic nitching by allocating funds to research projects, which had previously operated below the radar of institutional scrutiny. The birth and early development of national science policies in the 1950's confirmed the disposition toward the normalization of managerial attitudes and the legitimization of managerial patterns within the academic community.

### **2.3 The Multiversity as a “Conglomerate” University**

Fours years only separate Clark Kerr's 1963 vision and thoughtful analysis of the multiversity from Jean-Jacques Servan-Schreiber's influential portray of *The American Challenge* for European countries. Both of the authors were convinced that the future of Western industrial capitalism laid in its ability to make a wider use of expert knowledge in order to bring about new forms of economic gains. Moreover, Kerr and Servan-Schreiber trusted the prestigious American research university to be the appropriate institutional tool that would ensure this transition. In Kerr's view in particular, nurtured by his research interest in industrial relations and his practice as chancellor and president of the University of California Berkeley, the best institutional frame was the most flexible one. He coined a new concept that translated the transformations at stake in the academic environment of the 1960's – the multiversity. In *The Uses of the University*, he described the multiversity as a “mechanism held together by administrative rules and powered by money” (Kerr 1963). In contrast to the modern university, the edges of the multiversity are “fuzzy”; however, contrary to the pre-modern university, it remains an institution, albeit fractioned and dismantled. This vision led him to draw several comparisons between corporate and university organizational systems, the latter being inspired by the former. As he noted in his inaugural address in 1952:

“The university's function is to choose enterprising men and to provide the conditions whereby their enterprise may be successful [...]. Freedom for the academician in the university serves a public purpose just as does freedom for

the entrepreneur in his marketplace – and it is the same purpose: quality and progress for the society.” (Soo/Carson 2004)

Depending on the nature of Kerr’s rhetoric magnitude, the multiversity bore two significations. As a symptom observed in the mid-1960’s, it was a clear-and-cut echo of the growing process of fragmentation of university research and teaching departments, which took place in the United States as well as in Europe and facilitated the implementation of entrepreneurial forms of research practices (Pestre/Jacq 1996). Taken as a conceptual construct, however, the multiversity can most certainly be considered as a visionary sketch of the gradual trend of “dis-academization” that emerged from the 1970’s onwards. After the social upheavals that shook the campuses throughout the world, hybrid industry-university research centers started to flourish and drain the research potential of academia. Universities’ quasi monopoly in the supply of knowledge was soon eroded. Inspired by the seducing prospects of the multiversity, university officials replied by making the place more attractive for investors. On the one hand, scientists were asked to coordinate their research activities when dealing with industrialists; on the other, it was clear the quest for performance and efficiency hastened the fragmentation of the university between rentable and non-rentable faculties or research departments.

The adoption of a corporate ethos by university authorities has not produced the same impact in Europe and the United States. As Nathan Rosenberg argued, “US universities have responded, far more quickly than universities in other OECD countries, to the commercial opportunities held out by (recent scientific) discoveries as well as to the scientific opportunities” (Rosenberg 2003). This was due both to the practice-oriented origins of the land-grant movement, but also to the extent of the intervention of the State. In a way, the drop of the post-war “federal grant” university in the 1970’s was just a reminder addressed to university administrators that they had to find out themselves the appropriate means for their institution to grow further and remain competitive. Leading universities could easily find a substitute for the federal angel; it was not the case for the large majority of them, forced to develop creative methods of alternative funding. In Europe, where the public involvement has been embedded in national educational systems, the situation proved to be more harmful. Although not a new phenomenon, renewed mechanisms of industry-university relationships have epitomized the blueprint of science policy in Europe. In response to the ever-widening gap between American and European industrial innovation, the institutionalization of managerial practices has tended to become a “top down” process.

That is true, although what is really new in this situation, as Henry Etzkowitz has observed, is that “many academic scientists no longer believe in the necessity of an isolated ‘ivory tower’ to the working out of the logic of scientific discovery” (Etzkowitz 1999).

## **Conclusion: Are Universities Turning Entrepreneurial?**

In his study *Creating Entrepreneurial Universities*, which relied on five European case studies, Burton Clark, professor at UCLA, singled out five pathways of institutional transition from public-funded to successful entrepreneurial universities: the strengthening of the steering core, the increasing development of the periphery, the reinforcement of financing autonomy and capacity, the academic teambuilding, and the diffusion of entrepreneurial faith among the scientific staff and the faculty (Clark 1998). At first sight, the call for a deeper institutional centralization makes Burton’s view of the ideal entrepreneurial university obviously incompatible with Kerr’s principles of flexible multiversity, although they both dig regularly in the phraseology of “corporate performance”. On the practical scene, however, the two concepts seem to overlap inasmuch as American and European universities converge towards increasing institutional and organizational flexibility. The current shifts of governance not only reflect a modification of academic strategy – as previously shown, universities’ responsiveness to social changes has been permanent throughout history (though sometime differed) –, they disclose a profound transformation of structural patterns. Clearly, a new regime of academic organization filled with managerial techniques, corporate-based methods, and entrepreneurial credo is being implemented in the various national education systems.

As I tried to show, this regime was introduced by entrepreneurial scientists rather than imposed from outside hostile environments. It came long after the legitimization of managerial attitudes within the academic community itself. It is ironic, therefore, to see that advocates of academic modernization continue to rely on the myth of the ivory and claim newness and modernity while they constantly ignore universities’ history in this respect. As a result, the perception of a “second academic revolution” should be tempered by the fact that universities have conducted economic and social activities before being labelled as university’s “third mission”. However, the difference within the entrepreneurial regime lies precisely in that the so-called “third mission” tends to formalize and institutionalize – somewhat brutally – specific practices

and impose them to the university as a whole. Such forced embeddedness is naïve. As the various historical phases have demonstrated, if universities adopt and generalize (rather than select and adapt) practical and conceptual tools that are alien to its functioning, every attempts to reform and improve its structure will remain largely counterproductive.

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# **Rationalization and the Utilization of Scientific Knowledge in German and U.S.-American Discourses**

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FRANK MEIER/ANDRE MÜLLER

## **1. Introduction**

In political discourses scientific knowledge is seen as both a prerequisite for and a driving force of economic development and progress. However, while in more traditional concepts the utilization of scientific knowledge has been treated as a naturally evolving process it is now conceived of as the subject of intentional and planned action that facilitates the active transfer of technology between academia and the economy. Universities as core scientific institutions are increasingly expected to take an active role in this process.

Debates about a closer coupling between science and industry can be observed all over the globe (see, for example, Slaughter/Leslie 1997, Etzkowitz et al. 1998, Etzkowitz 2000, Slaughter/Rhoades 2004). Yet, higher education systems as well as national innovation systems differ in important ways. Comparing Germany and the U.S. this becomes obvious at first glance. It is not only the sizes or the heterogeneity of the systems, but also the internal governance structures and the role of non-university research that differ significantly. No less important are cultural traditions that shape the systems' disposition to social responsiveness. While "service" already became a legitimate mission for American universities in the second half of the 19th century, the German von-Humboldt-ideal favored social disembeddedness and remoteness.<sup>1</sup> Given these differences

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1 Though an orientation towards the economy was not as alien to the German university system as it sometimes appears in retrospect. For some in-

one would expect only few similarities between the American and the German technology transfer discourses. In this article, however, we will present findings of a comparative research project<sup>2</sup> that suggest strikingly similar models in both countries' discourses. We assume that a general cultural trend of contemporary world society is underlying these models, a trend towards rationalization. In our view, thus, the case of science and technology transfer is a very instructive example of the discursive interplay between global trends on the one hand and national traditions on the other hand.

We will develop our main argument in three steps: First we suggest that discourses on science and technology transfer in Germany and the U.S. are embedded in a globalized cultural "project" that we, according to the terminology of neo-institutionalist world polity studies, refer to as rationalization. Secondly, we argue that in both countries three distinct discursive models can be identified: the information and documentation model, the cooperation model and the blurring of boundaries model. Thirdly, we will discuss differences that exist despite all the similarities, and that they can be traced back to broader political cultures in both countries. Our concluding remarks will add some considerations on the very nature of rationalization.

## 2. Rationalization

Processes of rationalization in occidental culture have been most influentially analyzed by the classic works of Max Weber (1972). Very much inspired by Weber's work, sociological neo-institutionalism treats rationalization as a "project" profoundly transforming the institutional structure of modern society. In this view rationalization is closely linked to a comprehensive cultural framework that is increasingly globalized though Western in origin (Meyer 1994). According to this "western cultural account", nature (including the nature of society) is a disenchanted, lawful, orderly, and understandable interrelation between entities that are themselves lawful, orderly, and understandable. Rationalization, as a process, implies the inclusion of new objects into the sphere of rational-

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sights into early cooperations between individual researchers and industry see (König 1990; Bertrams in this volume).

- 2 The results presented here are part of a larger comparative research project on technology transfer discourses and structures in Germany and the United States. This project was directed by Georg Krücken and made possible by a grant from the Deutsche Forschungsgemeinschaft (DFG Grant KR 2011).

ity and also the ongoing production of detailed rational knowledge and theories on all sorts of subjects. Moreover, rationalization results in the production and diffusion of structural elements that are perceived as rational. That is, they are seen as reasonable, effective and efficient means to attain legitimate ends. As a project, rationalization legitimizes the aim of complete disenchantment of nature and society and the pervasion of society with rationalized structures.

It has been argued that neo-institutionalists treat rationalization in organizational contexts only in terms of adaptation and diffusion (Hasselbladh/Kallinikos 2000). While studying diffusion of institutionalized cultural content is clearly very important to neo-institutionalist thinking, the concept of rationalization, as a project, goes far beyond this issue. It very quickly becomes clear that rationalization, in its very broad and abstract content, provides too little information to be prescriptive for organizational structures or action. Thus, there is plenty of room for local processes of selection and transformation. But maybe even this reasoning is linked too much to the idea of rationalization as a top down process, as an external force acting on social entities. In which case, it is more appropriate to define the project of rationalization as a generative structure that enables and legitimizes decentralized cultural production. This view highlights both the innovative potential of institutional structures and the active role of organizations and other local entities. These entities do not only generate rationalized structures for themselves, they feel increasingly entitled to give advice to others (Meyer/Jepperson 2000, Meier 2004). Rationalization thus leads to an increasingly dense net of dynamic cultural production, diffusion and transformation. Within this structure it is quite probable that global trends are interwoven with local cultural contents. The idea of a globalizing project of rationalization is then by no means inconsistent with the persistence of national traditions.

The rationalization of nature and society is closely related to the rise of science and scientific authority. Science is without any doubt a central piece of the net of rationalization (Drori 2003). This is not only due to the fact that huge amounts of law-like knowledge about nature are produced within processes of scientific inquiry. Rather, the concept of nature that is becoming dominant in modernity is an expression of a scientific outlook (Meyer/Jepperson 2000: 103). Moreover, specific claims on the nature of nature considerably gain authority when they are backed up with scientific knowledge. Who wants to justify her actions or omissions is well advised to rely on scientific or professional advice. Finally, science is not only seen as producing knowledge for its own sake (which is highly valued and legitimate) but also as contributing substantially to

economic progress and public welfare, which are core values in rationalized world society.

However, while science is clearly an important driving force of rationalization, this does not imply that science itself is excluded from rationalization or cannot be disenchanted or further rationalized. Quite the contrary, we argue that science is increasingly becoming the subject of rationalizing forces. This holds particularly true with regard to its core institutions. University structures worldwide are currently experiencing dynamic rationalizing efforts (for some general tendencies see Krücken/Meier 2006). Two examples will illustrate our claim.

One important aspect of the rationalization of universities is the introduction of evaluation procedures and standardized techniques of counting and accounting. Of course, since the advent of the research university, at the very latest, the idea of organized skepticism and collective criticism has been at the heart of academic culture. But this is quite remote from today's more rationalized approach. Traditionally, the output of universities (i.e., knowledge and educated people) was seen as distinct from the output of other organizations, and though it could and should be subject to scrutiny, the formal measurement of knowledge and education seemed to create insurmountable problems. These problems are not solved yet, nevertheless formal measurements, e.g. based on bibliometric data, are rapidly diffusing into academia. As Weingart (2004: 119) puts it:

“[O]ne can now witness internationally a dramatic shift from the well founded scepticism to an uncritical embrace of bibliometric numbers. This change of mind is not limited to policy makers and administrators but has taken hold of deans, department chairmen, university presidents and officials in funding agencies and research councils as well, i.e., of representatives of the scientific community that were most strongly opposed to external evaluation of research by any means.”

Another aspect is the transformation of university management into a profession. While university management was traditionally seen in many countries as the business of academics who were more or less managerial laypeople, higher education management is increasingly becoming the subject of academic teaching (with courses and degrees) and research (with specialized journals). As such, it is an understandable and learnable task just like any other kind of management.

In this article we will focus on different kinds of rationalization processes, those at the boundary of science and at the boundary of universities: that is rationalization with regard to the utilization of scientific

knowledge. The outstanding relevance of this kind of knowledge for economic development is an idea that has become popular all over the world since World War II (Drori et al. 2003). In Germany as well as in the United States the emerging science policies concluded that it was of vital national interest that scientific capacities were expanded and that science was granted political priority (Bush 1945; BMWF 1965). Realizing science's utility was thus synonymous with advancing science, since it was clear that – metaphorically speaking – “nature has always given its fruits” (Stoltenberg 1969: 117). Implicit here was the idea of a cascade effect: basic knowledge would “spill-over” to more applied fields and eventually lead to innovations in the industrial domain. This implicit linear innovation model was consistent with a discursive emphasis on basic research. In the long run, it was believed, scientific excellence would lead to economic development; without the need for further investigation of the processes involved or specialized planning action. The paths eventually leading to the expected outcomes were not seen as problematic. Thus, the utilization of scientific knowledge was hardly rationalized at all.

However, since the 1950s processes of utilizing scientific knowledge have been increasingly becoming subject of theoretical reasoning. Here, the perception was expressed that transfer was less effective than it could be. “It has become apparent that the process of transfer in many cases does not run as smoothly and quickly, as desirable for the economy as a whole” (Wissenschaftsrat 1975: 137).

In this kind of theorizing – initially scholarly discussions, subsequently also political statements – science and technology transfer was seen as a process that is lawful, understandable and that can be intentionally organized. As more and more obstacles to the process were discovered, the alleged importance of science for economic development was strikingly hardly ever questioned, rather the perceived under-utilization of this knowledge lead to demands for stronger efforts.

### **3. Transnational Models of Science and Technology Transfer**

Over the decades the question of how to snatch the metaphorical fruit from nature in an effective and efficient way, and how to facilitate the intentional and planned utilization of scientific knowledge have been answered in different ways. We argue that these discourses on science and technology transfer, while being quite heterogeneous, display a funda-

mental order.<sup>3</sup> According to our analysis, three distinctive discursive models of transfer can be identified: the *information and documentation* model, the *cooperation model* and the *blurring of boundaries* model.<sup>4</sup>

Each model is accompanied by the production of theoretical knowledge on the one hand and the establishment of rationalized social structures (e.g. specialized agencies) on the other hand. We argue that in spite of remarkable differences between the national innovation systems these models are central in both countries' discourses. In Germany, the three models succeeded each other in a quite clear chronological order. Or to put it more precisely, one can observe a succession of dominant models, one at a time, though older models don't disappear completely and continue to leave their marks on transfer discourses. The American picture is even more strongly marked by overlapping models, in which subsequent steps are added in a piecemeal fashion.

While the picture drawn here is obviously not that of linear progression, this is not to be expected in processes of rationalization. Nevertheless, looking at the succession of the models one can observe two developments: First, the models are depicting the process of utilizing science in an increasingly complex way. Second, science is perceived as becoming increasingly involved in the process of utilization of scientific knowledge. Scientific institutions (esp. universities) are becoming actors in this process. Thus, science and universities, as its core institutions, are increasingly subject to rationalization.

## The Information and Documentation (I & D) Model

According to the information and documentation (I & D) model, the key problem with utilizing scientific insights is the accelerating rate at which knowledge is produced. The solution to the problem of knowledge "superabundance" is the creation of information infrastructures that make knowledge available in a methodical, technologically advanced and modern way. Specifically, new infrastructures are supposed to ensure that targeted actors efficiently negotiate in an information-rich environment and receive timely and relevant information. In addition, new information infrastructures are expected to reduce the waste of time and resources that results from the reinvention of already-existing technologies.

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3 Obviously and inevitably we offer a highly rationalized account of these discourses.

4 For a more comprehensive analysis of the three models see Krücken/Meier/Müller forthcoming.

Since the I & D model clearly focuses on technological solutions, it might appear to be an outcome of the computer age. Though it is probably true that the success of the model was connected to the possibilities and, even more, the promises of computer technologies, it is important to realize that institutionalized I & D efforts started, when the most advanced information and documentation technologies were based on file card systems.

The I & D model can be applied to all kinds of data, information and knowledge. Empirically it has sometimes been used as a very general concept: "In principle information from all fields of knowledge and all areas of life should be available to everyone who is interested" (Inter-ministerial working group 1971: 17). Nevertheless, the utilization of science for economic purposes has been addressed specifically in the I & D model as well.

The I & D model of science-industry relations is *linear*: knowledge generation is followed by dissemination and then utilization. The transfer of existing knowledge across science-industry boundaries takes place without any transformation of that knowledge. At most, information is condensed, or when necessary, translated. Nevertheless, the I & D model is by no means *identical* with the linear innovation model in the sense that it is just a strange new label for what is known as the linear model. As mentioned above, even a less rationalized concept of the utilization of scientific knowledge displays an implicit linear innovation model and it will be shown that the cooperation model preserves residues of linearity. Additionally, the I & D model is very much connected to a special kind of professional practice and policy, both of which were historically known under the labels of information and documentation.

The I & D model does not assume personal contact between scientists and industry. A scientist's primary role is that of knowledge producer, although he may be asked to avoid "unnecessary" or redundant publications and to provide titles and abstracts that may be easily understood by others<sup>5</sup>. Even here, specialized agencies and archival journals, rather than the scientists themselves, are expected to undertake the bulk of the required work. Thus, the rationalizing process involved in I & D only marginally affected science in its institutional structure. The rationalized structures that were introduced were only loosely coupled (Weick 1976) to scientist's usual every day work. The I and D model can be illustrated by the following quotation from the US case:

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5 This was, for example, postulated in the Weinberg report (President's Advisory Committee 1963), which was therefore much more demanding than other I & D papers (cp. Bundesrechnungshof 1962: 2).



“[The federal government] has an obligation to develop a workable system of utilizing this enormous reservoir of scientific information so that its benefits can be transmitted to business both large and small in order to provide the ingredients necessary for an accelerated growth in our civilian economy.” (Eugene Foley cited in Rosenbloom 1965: 6)

Although I & D efforts go back in time beyond our scope, with documentation technologies adapting to the respective technical standard of a given era, it bloomed, both in Germany and the US, in the late 1950s and early 1960s. While international efforts to establish information policies can be observed, especially in the early 1970s (e.g. OECD 1971, UNESCO 1971), it was in the late 1970s that the following model took precedence. The information policy nevertheless continued to exist into the 1990s when it was transformed into an information and communication policy.

## The Cooperation Model

The idea that research outcomes more or less automatically “fall-out” or “spill-over” from the academic to the industrial domain when a sufficient I & D infrastructure exists has been met with increasing skepticism. The fact that potential users have access to documented knowledge seemed to be, in itself, not enough to stimulate innovation based on this knowledge. Taking this consideration into account, the cooperation model emphasizes that science and technology transfer can only be successful if scientists and practitioners actively exchange their ideas through immediate personal contact. This may be achieved informally or formally, for example, through personnel exchanges between research institutions and industrial partners. Mediators (like technology transfer offices, the most obvious rationalized structures introduced under this model) shall help establish contacts and to clear up misunderstandings. Thus, in this model, actual or perceived “cultural gaps” between science and the economy are seen as the key problem. These gaps can only be bridged by personal trust.

In contrast to the I & D model, which clearly implies a linear and hierarchical process of transmitting existing knowledge, the cooperation model understands “transfer” as a *dialogue* among partners from different institutional backgrounds. Transfer is no longer conceptualized as a one way street. Rather, scientists engage in cooperation, learn about the technological needs of their (industry) partners and redraw their research agenda accordingly. Thus, the cooperation model introduces an element of feedback even though scientists are still seen as the primary knowl-

edge producers in the exchange. Here, a quote from a report by a German transfer office is quite revealing:

“It is the expert’s task to mediate between research and industry in both directions. On the one hand results from applied research are transmitted to industry, where they are developed further into marketable products and procedures. On the other hand problems from industry are reported to universities in order to make them the subject of research. Technology transfer is thus ongoing communication between research and industry, which aims to dismantle prejudices and to enable mutual reflection. As a result, science is opening up to a stronger industry-orientation and industry is gaining understanding of scientific methods of operation.” (Allesch 1979: 21)

This quotation casts some doubt on the character of dialogue in the co-operation model. Indeed, at least in this case, the contributions of the two parties involved seem to be asymmetrical. Science on the one hand provides the demanded knowledge, industry on the other hand is just informing scientists about problems, raising the hope that they can be solved. This asymmetry is expressed precisely when, in respect to the American situation, Bozeman concludes (2000: 633): “The logic is simple: universities and government labs make, industry takes.” Despite the element of feedback, the cooperation model does not necessarily transcend the linear innovation model in all its facets.

Notably, although the cooperation model stresses the institutional integrity of science (and of economy as well), it implies an important change in the role of science in the utilization of scientific knowledge. Scientists, as transfer partners, and scientific institutions, as mediators, are expected to get *actively* involved in the process of science and technology transfer. Scientists and scientific institutions are no longer simply rationalizing forces, they become subject to rationalization. The cooperation model can be illustrated by this quotation from the German case:

“Technology-transfer requires mutual trust between the partners involved. A fruitful process of exchange can only develop this way. Scientists, who want to cooperate with small and medium sized enterprises, have to be willing to show understanding for their problems and their ways of thinking and have to partly put aside the criteria of their usual work. Entrepreneurs for their part have to show understanding for scientific work.” (Research Council Baden-Württemberg 1983: 24)

While the cooperation model in Germany and its successor, the BoB model, can be distinguished in time, this is not the case in the U.S. In the 1980s, both models were simultaneously supported. Nevertheless, we

suggest that efforts conforming to either of the models can be distinguished analytically.<sup>6</sup>

## The Blurring of Boundaries (BoB) Model

While the cooperation model takes clear institutional boundaries between science and the economy for granted, and even emphasizes them, the blurring of boundaries (BoB) model assumes that these boundaries are becoming increasingly permeable, diffuse and, in some cases, “blurred”.

Analytically, this model has two variants. The first focuses on the emerging entrepreneurial activity of the university, which is understood as an *economic* actor in its own right, engaging in licensing activities and/or fostering spin-offs. In becoming entrepreneurial the university transcends its institutional identity and undermines traditional boundaries. This variant is more important in the American case, where the famous Bayh-Dole Act of 1980 serves as a *symbolic* point of reference.<sup>7</sup>

The entrepreneurial variant highlights the proliferation of university licensing offices as probably the most visible rationalized structures. In the U.S. extensive professionalization efforts can be observed in this field, which have been greatly fostered by the Association of Technology Managers (AUTM) and have begun to expand beyond the American borders in recent years.

The second variant emphasizes the embeddedness of academic knowledge production in a comprehensive innovation process, which is regarded as highly complex and is often described with metaphors of systems or networks. This model highlights, for example, the interaction of the systems’ components or feedback loops. Formalized networks are advocated as the most appropriate structures in innovation contexts.

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6 Two pieces of legislation, both of which were passed in 1980 can be identified as the most visible examples of the two models: The Stevenson Wylder Act (as the embodiment of the cooperation model), and the Bayh-Dole Act (as most prominently displaying the entrepreneurial BoB model).

7 The Bayh-Dole Act permits universities to retain title to inventions developed using federal funding. Before the act, universities needed special approval to secure patents on inventions developed with federal research monies. Slaughter and Leslie conclude: “In a very real sense the Bayh-Dole Act encouraged academic capitalism.” (Slaughter/Leslie 1997: 46). Yet, some authors suggest that the Act has had little real effect on university patenting and licensing, and that it was only one among other factors contributing to the corresponding increase in the 1980s and 1990s (see, for example, Mowery et al. 2001).

These network features clearly contrast with the cooperation model's more simple and linear structure. The cooperation model focuses on a mediated and straightforward (usually) dyadic relation between scientists and practitioners. In contrast, the more complex network model makes it harder or even impossible to differentiate a well-defined academic role from an economic one. As a result, as in the network variant of the BoB model, the institutional boundaries of the economy and of academia are blurred.

This variant is very prominent in the German discourses of the 1990s, as the following quotation from the Federal Ministry of Research illustrates:

"Making the existing borders between public research and the economy permeable is one of the main issues of shaping the future direction of research. Where it is relevant to the economy, research must [...] be able to smoothly move from the public sector to the economy." (BMBF 2000: 28)

#### **4. Synopsis: The Development of the Science and Technology Transfer Discourses in Germany and the U.S.**

Given the differences between the German and the American higher education and innovation systems, it is quite remarkable that all three models – in their specific instances – shaped the transfer discourses in both countries.

In Germany there has been a more or less a clear succession of the three models. The issue of science technology transfer has been addressed as a problem of I & D activities – with and without using the term – in political papers since the 1960s (Bundesrechnungshof 1962) and in scholarly discussions, at least since the 1950s. Yet, the first German program on I & D was not introduced until the mid seventies (BMFT 1975), after several international organizations had begun to promote information policy. Trust and dialog based cooperation became the focal issue in the late 70s and the 80s, when transfer offices were seen as contributing considerably to university-industry interaction. In the 1990s, most notably, the federal government postulated the BoB model. Unlike the U.S.-case, the model appeared predominantly in its network-variant. This may be due to an emphasis, in German political culture, on interest mediation and the inclusion of heterogeneous actors. This tendency has been further fueled by the European Union, which also heavily promotes the network idea through a variety of programs

and by making the participation of different institutions from different member states obligatory for European research funding. The very idea of the European Union as a multinational entity is probably ideologically supportive of boundary spanning networks that are integrating heterogeneous and self-confident participants. Though there is also a call for entrepreneurial universities in Germany, this demand is rather hesitant in comparison to that in America.

The I & D model preceded the other models in the U.S. too. Triggered by the sputnik shock information policy was established considerably earlier than in Germany. But, unlike in Germany the American discourse has been characterized by an incisive discontinuity since the beginning 1980s. Marked by legislative innovations like the Stevenson-Wydler Act (which displayed the cooperation model) or the Bayh-Dole Act (which became the epitome of entrepreneurial activity) – and a series of other pieces of legislation – both trust-based cooperation and entrepreneurial elements simultaneously became central aspects of the discourse. In addition, the Bayh-Dole Act served as a focal discursive event for all relevant actors dealing with university-industry relations. Such a central reference point is missing in the German discourse.

In accordance with differences in broader political cultures, the American discourse displays a different version of the BoB model. The strongly individualist American polity is probably more in line with the emphasis on the entrepreneurial university and the entrepreneurial researcher than the German corporatist polity. In return, though heavily discussed and promoted in academic discourses, innovation networks are significantly less visible in political discourse, related programs, and legislation.

Interpreting the succession of the models in chronological order – which is appropriate for the American case only to a limited degree – a development towards increasing involvement of scientists and scientific institutions in the process of utilizing science can be observed. In the BoB model – in its network variant as well as in the idea of the entrepreneurial university – even the institutional boundaries of science and the economy seem to be getting blurred. In this development, the process of rationalization is increasingly affecting the institutional core of science and the university.

## 5. Concluding Remarks

In this article we have described rationalization as an all-embracing process that is increasingly affecting science itself. Some concluding remarks on the very nature of this process are called for.

While rationalization is disenchanting in nature, it does not expel myths from society. Quite the contrary, neo-institutionalists have provided detailed descriptions of the *myths of rationality* prevailing in contemporary world society (Meyer/Rowan 1977; Dobbin 1994; Brunsson/Olsen 1993). Thus, arguing that processes of rationalization can be observed, we certainly do not claim that discursive models of science and technology transfer are increasingly infused with the spirit of reason. Of course, we do not deny that there has been some theoretical progress but, as has been shown, even variants of contemporary models display the existence of myths in the “innovation society” (Krücken/Meier 2003).

For example, the common belief that networks are to be seen as superior social structures in the context of innovation, as expressed in the network variant of the BoB model, is clearly a myth. Though many studies point to the advantages of networks, these are not always and not in every respect superior. While the institutional economics of Oliver Williamson (1990) points to the fact that the choice of network structures is only rational under certain conditions, other authors warn against “lock in”-effects (Grabher 1993). My own studies suggest that networks, in the context of science and technology transfer offices at German Universities, are costly (in terms of invested time), fragile, difficult to establish and difficult to sustain, while the benefits are difficult to measure.

Nevertheless, maybe it is the network myth that leads to beneficial outcomes in some cases. In such cases it would be the unshakable belief in the superiority of network structures that allows networks to establish and to grow, in spite of all difficulties. The idea of superiority would then contribute to its own realization. More generally speaking, the myths of rationality, like all myths, enable action despite uncertainty. From this perspective, the production of “appropriate” myths is one of the most important social functions of the project of rationalization.

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# **The Cifre PhDs: A Tool for Mediation between Laboratories and Firms in the Humanities and Social Sciences**

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RACHEL LEVY

## **1. Introduction**

We are witnessing the emergence of new forms of collaboration between universities or other public research institutes and industries which is often considered a new mode of the production of knowledge. In the present study, we examine the organisational modalities of one particular type of collaboration, the joint-supervision of a PhD student by an academic research institute and a private firm. Indeed, since 1981, there has been a programme in operation in France that has enabled doctoral research students to conduct their research partly in a public research institute and partly in a firm. This collaborative arrangement, known as Cifre (Convention industrielle de formation par la recherche), is a public-private research training agreement. The student splits his/her time between the research institute and a firm, which receives a subsidy from the State. The firms included in such projects are large as well as small firms, and are mainly in the industrial sector. However, increasingly service sector firms (often consultants and other sorts of knowledge intensive business services) take part in this kind of collaboration. The research fields of the research institutes included in such projects have been largely confined to computer science, physics and chemistry, but more recently Cifre has sponsored students studying humanities and social sciences.

In this study, we propose to analyse the functioning of this specific sort of collaboration between firms and academic research institutes, particularly in the field of humanities. In order to understand this par-

ticular system, we will present the results of a questionnaire sent to the various actors involved in the Cifre system: firms, academics and students. The results of this analysis show that, in this programme, the PhD student plays the role of mediator between the private and the academic communities. Through the student, the research institute and the firm initiate collaborations that continue after the contract has ended.

In the first section, we analyse the different modalities of collaborations that exist between universities and firms and the effects of these collaborations on each of the actors. The second section focuses on this particular type of collaboration between universities and firms: the Cifre PhD scheme. In order to get a more precise understanding of the organisational mechanisms behind this possible transfer of knowledge the empirical part of the report presents the results of a questionnaire sent to the various actors who have signed Cifre agreements in the humanities.

## **2. Collaborations between Universities and Firms**

For some years, we have been addressing a number of *new* forms of production of knowledge through cooperation between universities and firms. This phenomenon is notably described in the literature as Mode 2 (Gibbons et al. 1994, Hicks/Katz 1999, Gibbons 2000). In Mode 2, knowledge is produced in the context of application by heterogeneous networks of actors and institutions (research is not only produced at universities) in a transdisciplinary and international framework. This model could be compared with the model of the triple helix, developed by Etzkowitz and Leydersdorff (2000), in which knowledge is produced by a hybrid network of universities, firms and governmental institutions. These different analyses illustrated a departure from the linear models of the production of knowledge to a system where knowledge is produced by networks of heterogeneous actors. In line with criticisms of to these models (Pestre 1997, Shinn 1997, Weingart 1997), we think that it is impossible to observe a real temporal break between the two modes of the production of knowledge. Nevertheless, it is important to present these models because they were the first ones to underline the existence of interaction between public research and industry and enable researchers to describe this phenomenon in a simple way.

The Cifre system seems to constitute a particular example of knowledge produced in a transdisciplinary and problem-solving context. Before presenting the functioning of this mode of collaboration between universities and firms in more detail, in the following paragraph we will locate

this particular form of collaboration in a global typology of the different forms of knowledge transfer between universities and firms.

## **2.1 The Different Modalities of Collaboration between Universities and Firms**

We can actually observe an increasing number of collaborations between firms and public research organisations. Nevertheless, these collaborations are not uniform; they can take different forms and are characterised by varying degrees of interaction between the actors. As explained by Bozeman:

“In the study of technology transfer, the neophyte and the veteran researcher are easily distinguished. The neophyte is the one who is not confused.” (Bozeman 2000: 627)

Two levels of analysis must be taken into account for the examination of the modalities of collaboration: on the one hand it is necessary to define who collaborates, and on the other hand the object of the collaboration must be specified. These questions lead us to propose a third question: how is the collaboration implemented?

In order to answer the first question regarding the actors of the collaboration, the level of interaction must first be differentiated. Does the collaboration take place at the level of individuals, of groups of individuals, or at the level of the organisation? The training of a student in industry is an example of an interaction between a person (of the academic world) and an organisation (the firm). In contrast, a consortium of research constitutes an example of collaboration between institutions. To answer these questions on the subject of the collaborations, we could say, in a very broad sense that the objective of the collaboration is to increase the partners' stock of knowledge. What type of knowledge is exchanged during the collaboration? More precisely, can we differentiate collaborations on the basis of the type of knowledge which is being exchanged during the collaboration, and in particular, on the basis of the degree of codification (Schartinger et al. 2002) and formalisation of this knowledge (OECD 2002)? The functioning of these interactions also depends on the type of media which serve the collaboration. We can distinguish between the modalities of collaborations which only take place through human interactions and the modalities using the intermediary of a codified carrier of knowledge (such as scientific publications), technological artefact (such as a prototype) or a financial flux (such as payment of royalties). We can also note that some interactions are initiated by

science and directed toward industry, while others involve reciprocal exchanges between science and industry. For example, some modalities of collaborations (notably the joint-supervision of PhD students in firms) constitute a bilateral modality of collaboration between individuals and institutions who traverse a two-way bridge, to use the expression introduced by Meyer-Krahmer and Schmoch (1998).

## **2.2 The Effects of Knowledge Transfer between Universities and Firms**

These different forms of collaborations will have an impact on the way the actors operate. One of the major aspects of this collaboration is the creation of new knowledge for both actors. But in addition to a “simple” increase in the stock of knowledge of the different actors, the development of direct as well as indirect effects for the two organisations and society as a whole can be observed, as explained by Pavitt:

“Some contributions will be direct, when academic research leads to applicable discoveries, engineering research techniques (such as computer simulations) and instrumentation. Others will be indirect, when academic research training, background knowledge and professional networks contribute to business firms’ own problem-solving in particular, to the experimental engineering research, design practice, production and operation that will be mainly located within the business firms.” (Pavitt 1998: 797)

In order to analyse these different indirect effects of the interaction between universities and firms, we base our analysis on a survey carried out by Salter and Martin (2000), in which six different types of effects were identified that could be attributed to the collaboration between university and industry. Before listing these however, it must be stated that, in their study, these authors described unilateral effects from science-based research towards industry. Nevertheless, we want to see if, in the case of an interactive and bilateral collaboration, bilateral effects are also observable.

- The interaction between academic researchers and industrialists can induce an increase in the stock of knowledge of each of the actors of the collaboration. In this case, knowledge is defined as a combination of tacit (Polanyi 1966) and codified knowledge.
- The interaction of academic research with industry can also create or improve instrumentation or methodology (Rosenberg 1992). Even in the field of humanities, as we will see later in the study, collaboration

between different fields of research can induce the development of new organisational methods of work in firms.

- Another effect on research, particularly for the universities, is the formation and development of the skills of young graduates. It is one of the main objectives of the Cifre procedure, as we will see below.
- Furthermore, scientists as well as industrialists form closed research networks; they form communities (Brown/Duguid 1998, Amin/Co-hendet 2004). It is therefore possible that the collaboration between academics and industrialists enables the exchange and transfer of knowledge between different communities. The implementation of a common research project may also lead to the birth of a new community of research around the project.
- Collaboration between academic research and industry can also contribute to problem solving.
- And, finally, one of the last effects identified by Martin and Salter is the creation of new firms by scientists, who transfer knowledge acquired at the university to industry.

In the following study we will analyse the importance of these different effects in the case of joint -supervision of a Cifre PhD student.

### **3. The Cifre: a Particular Modality of Collaboration between Universities and Firms**

During the 80s French governments developed some systems of collaboration between public research organisations and private firms, systems that integrate the hiring of young graduates by the firm. The Cifre system concerns students who want to complete a doctorate. This procedure involves the collaboration of a PhD student, a public research institute and a firm around a common project (Quéré 1994). This study focuses on this particular system of doing a PhD in a firm.

#### **3.1 The Cifre System**

The Cifre system may lead to the launching of an innovative project for the firm and to an industrial training and a doctorate degree for the candidate, but it may also lead to the professional integration of the student in the firm in which the PhD has been made. Hence the Cifre convention links three types of actors (ANRT 1999):

- A French firm, which is committed, through the Cifre, to carrying out an innovative project in partnership with a PhD student and a research institute. In addition to a financial contribution, the firm must offer the candidate professional training. Concerning the financing contribution, the firm must hire the student for a period of three years, with a minimum yearly salary of 20,215 €. In exchange, the firm receives a subsidy amounting to 14,635 € per year from the National Association for Technical Research (ANRT).
- The student must be under 26 years old, have a French diploma (master's degree level), and no professional experience.
- The research institute may be located in a university, a school or a public research organisation in France or in a foreign country it but must be capable of providing research training to the candidate.

This system is managed at the national level by the ANRT. From 1982, when the system was created, to 2001, 10,002 Cifre agreements were signed, with a success rate of 91 % by 1998. A study made by the ANRT in 2000<sup>1</sup>, showed that in 91 % of the agreements the PhDs were completed and that in 5 % of the cases the students chose to abandon their PhD to work in the firm. Nevertheless, this system remains in used in France: the Cifre PhDs constitute only 4 % of the total number of PhDs with public funding and around 2 % of all PhDs completed in France each year.<sup>2</sup> Although it contributes to only a small percentage of the total PhDs, this system is important in that it promotes the professional integration of the student. In a study done in 2002, the ANRT showed that 84 % of the Cifre PhD candidates found a job immediately after their PhD was completed.

### **3.2 The Cifre PhD: A Bridge between University and Industry**

As previously stated, one of the modalities of knowledge transfer between universities and firms is the transmission of knowledge through persons who ensure the circulation of knowledge between the two organisations. They may be public researchers hired by firms for a certain period of time but also young graduates, particularly doctoral students

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1 ANRT (2000): 1981/2001: 20 ans de CIFRE. Enquête sur le devenir des docteurs CIFRE, publications de l'ANRT. Additionally, we wish to express our gratitude to Philippe Gautier, who allowed us to use the ANRT database.

2 We can compare this figure with 51 (6 %) of PhDs financed by the Ministry of Research and Education in 1998 (OST 2002: 81).

who are taking a training course or are employed by a firm. Some studies (Beltramo et al. 2001, Mangematin 2000 and 2003) have shown that PhD students who went to work in a firm after doing their doctorate transferred a part of the knowledge acquired in universities to these firms. They may be considered one of the vectors of the transfer of knowledge between universities and firms.

In addition to this, our other main hypothesis is that the Cifre PhD student not only functions as a vector of transfer from universities to firms but also as a mediator between academic research institutes and firms involved in common research projects. Because they are strongly involved in both communities, the students can be considered members of the scientific as well as the industrial communities. Using the formula introduced by Meyer-Krahmer and Schmoch (1998) we could say that the Cifre PhD student is a '*two-way bridge*' which allows the exchange of codified as well as tacit knowledge between a firm and a research institute and vice versa. They form a sort of cognitive platform between the world of scientific research and industry. They can channel the different types of knowledge of each group and transfer this knowledge from one community to the other. This bridge allows knowledge to reciprocally circulate from the firm to the research institute and decreases the geographic as well as cognitive distance (Boschma 2005) which separates the two institutions. The student travels between the two institutions and exchanges knowledge with each of the two actors. Thus, he/she can transfer knowledge in the direction of either partner without the existence of a direct contact between the university and the firm. In other words, this student can be viewed as an *articulator of communities*. This concept, introduced by Brown and Duguid (1998), describes the person who is included in different communities as one who has the role of translating the perspective of one community into the language of another one.

On the basis of the results of a questionnaire sent to the different actors of the Cifre system we will perform a more detailed analysis of the organisational mechanisms at work in Cifre PhDs and test our hypothesis on the role of the PhD student as a mediator between universities and firms.

## 4. Empirical Results

Over 10,000 Cifre PhDs have been done in France since the creation of the system in 1982 and around 15 % of them were in the field of humanities. In order to understand the actual functioning of this type of



collaboration, the following section will present the results of a survey (questionnaires sent by electronic and postal mail) of the different actors (PhD students, firms and research institutes) involved in Cifre projects carried out in the humanities.<sup>3</sup> We received around 500 responses to a total of 3,500 questionnaires sent, i.e. a response rate of 13 % for the various types of respondents.<sup>4</sup> We will now turn to the results of the different questionnaires in order to study the organisational mechanisms that are behind the implementation of the Cifre convention in the humanities.

## 4.1 The Origin of the Cifre

In the majority of the cases, the Cifre agreements in the humanities were implemented following a proposal by the PhD student. Indeed, when asked who initiated the project, 59 %<sup>5</sup> of the cases said that it was the student who gave impulse to the project. In a smaller number of cases (respectively 14 % and 18 % of the cases), it was the research institute or the firm which initiated the projects. The role of the student as the initiator of the project can be confirmed by looking at Table 1: around 15 % of the research institutes and firms decided to participate in a Cifre project upon the request of a student, who also played a role in the meeting between the two partners. The PhD students chose this form of doctorate in order to have the opportunity to carry out more application oriented research than a “traditional” PhD in the humanities. However, they also saw it as an opportunity to fund their studies and to have better access to the labour market. This hypothesis made by the students was confirmed by the fact that 25 % of the students who finished their PhDs claimed that they had found jobs in the firms where they had done their PhDs, and when asked directly, 85 % of them thought that the Cifre had facilitated their entry onto the job market.

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3 This questionnaire is presented in more detail and has been tested on the actors of the Cifre in Alsace in a previous study (Levy 2005). The author will provide an English version of the questionnaire upon request.

4 More precisely, we have a return rate of 15.5 % (228 responses) from the PhD students, 8 % (228 responses) from the firms and 9.4 % (228 responses) from the research institutes. All of the cases, in which at least one of the three actors replied, add up to a total a return rate of 20.6 % (373 questionnaires).

5 In this example, as well as in the following study, the global set of all Cifre agreements totals 373 Cifre agreements. The figures that do not correspond to one of the tables correspond to short and open questions which the Cifre actors were asked.

Table 1: The Reasons that the Actors entered Cifre Agreements

Sample	Reasons have conducted each of the actor to enter a Cifre	Effective	Repartition (%)
PhD student	To make a PhD more applied than a classical academic one	114	49,8
	To prolong the formation, and be inserted in the labour market	99	43,2
	Absence of other PhD financing	88	38,4
	To facilitate the future professional integration	83	36,2
	Proposal of the firm	10	4,4
	On the advice of former Cifre PhDs	7	3,1
	Better access to the firm for the implementation of the project* <sup>6</sup>	1	0,4
	Interest for the research project*	1	0,4
	Number of respondents	229	100
Laboratories	To initiate a collaboration with the firm	58	42
	To prolong a collaboration with the firm	43	31,2
	Following a request by the PhD student	20	14,5
	Need a PhD financing for the students	20	14,5
	To integrate the R&D networks of the firm	16	11,6
	After a first Cifre convention agreements	14	10,1
	Better access to the firm for the implementation of the Project	10	7,2
	Following a proposal by the firm *	2	1,4
	Number of respondents	138	100
Firms	To initiate a collaboration with the laboratory	47	39,8
	To integrate the research network of the laboratory	26	22
	Following a request by the PhD student	22	18,6
	Interest for the research project	20	16,9
	To prolong a collaboration with the laboratory	19	16,1
	Following a first Cifre convention	15	12,7
	In the framework of a global research project*	5	4,2
	Number of respondents	118	/

Table 2: The Reasons for the Choice of Partner

Sample	The reasons that guided the choice of the partner	Effective	Repartition (%)
PhD student	<i>Choice of the firm</i>		
	Informal contact with members of the firm	64	27,9
	Follow up a previous training in this firm	58	25,3
	The firm possesses some research tools necessary to the student's research project	44	19,2
	Good knowledge of the know-how of the firm	33	14,4
	Membership of the firm in a network	31	13,5

6 In this table and in the following ones the symbol: \* indicates that the proposition was not proposed in the initial questionnaire, but was proposed by the actors in the category: "others".

	The fame of the firm	24	10,5
	Proposal by the firm *	17	7,4
	Existence of contacts between the firm and the laboratory*	15	6,6
	It is the only firm which accepted*	17	7,4
	The geographic proximity of the firm with the laboratory	16	7
	The activities of the firm are linked to the subject of the research*	5	2,2
	Following a previous contract in this firm	5	2,2
	<i>Number of respondents</i>	329	
	<i>Choice of the laboratory</i>		
	The student did his/her master in this laboratory	154	67,2
	The scientific notoriety of the laboratory	45	19,7
	Informal contact with members of the laboratory	43	18,8
	Good knowledge of the know-how of this laboratory	33	14,4
	The geographic proximity of the laboratory with the firm	28	12,2
	Membership of the laboratory in research network	19	8,3
	The laboratory possesses some instruments necessary to the research	12	5,2
	Follow up a previous training in this laboratory	6	2,6
	The firm has some relationship with the laboratory*	4	1,7
	<i>Number of respondents</i>	229	100
<b>Laboratory</b>	Informal contacts with members of the firm	56	40,6
	Good knowledge of the know-how of this firm	40	29
	The firm possesses some instruments necessary to the research	33	23,9
	Scientific or industrial notoriety of the firm	32	23,2
	Good experience of a training student in this firm	29	21
	The geographic proximity with the firm	23	16,7
	After a request of the PhD*	21	15,2
	Membership of the firm in R&D networks	21	15,2
	It is the firm which ask for a Cifre*	5	3,6
	Participation of the firm and the laboratory in a common research project*	3	2,2
	<i>Number of respondents</i>	138	100
<b>Firm</b>	Informal contact with members of the firm	59	50
	Scientific notoriety of the laboratory	39	33,1
	Good knowledge of the know-how of the laboratory	27	22,9
	The laboratory possesses some instruments necessary to the research	27	22,9
	After a request of the PhD*	26	22
	Membership of the laboratory in a research network	20	16,9
	The geographic proximity with the laboratory	18	15,3
	<i>Number of respondents</i>	118	100

Research institutes and firms use Cifre projects to initiate or prolong collaboration with the other partner. Therefore, we suppose that the Cifre system supports the creation or the development of research networks between firms and academic research institutes. These institutions collaborate through the Cifre. Indeed, 42 % of the research institutes and 40 % of the firms wanted to initiate a new relationship with an industrial or academic partner (Table 1) and they chose their partners with the aim of becoming part of the research networks of the research institute (22 % of the firm) or firm (11 % of the research institutes) (Table 2). Moreover, as we can see in Table 3, over 20 % of the Cifre collaborations were conducted to transfer networking knowledge from the research institute to the firm and more than 28 % of the Cifre collaborations were made to transfer networking knowledge from the firm to the research institute.

## 4.2 Increasing the Stock of Knowledge and Bilateral Exchange of Knowledge

We will now investigate whether, through the mediation of the PhD students, the relationship between universities and firms leads to an increase in the stock of knowledge of each of the actors. Table 3 shows that different types of knowledge have been exchanged.

In the first part of this article we explained that the knowledge exchanged between academics and industrialists can be split into four types of knowledge. We can observe an important transfer of academic knowledge (“know-what” and “know-why” in the typology of Lundvall and Johnson) from the academic sphere to industry but also from the industrialists to the laboratories. Know-how is transferred largely from the firms to the laboratories, but also vice versa. Universities and firms carry out a mutual exchange of knowledge, which traverses a “two-way bridge” (Meyer-Krahmer/Schmoch 1998). This hypothesis is confirmed by the fact that in 60 % of the exchanges, there was a bilateral exchange of knowledge: the firm transferred knowledge to the research institute and the research institute transferred knowledge to the firm. In these cases of bilateral exchange of knowledge, all four types of knowledge are exchanged between the two partners, the transfer of know-how is, however, more frequent than the transfer of academic knowledge.

*Table 3: The Transfer of Knowledge between Firms and Laboratories<sup>7</sup>*

Type of knowledge which is exchanged	From the laboratory to the firm		From the firm to the laboratory		Bilateral exchange of knowledge <sup>8</sup>	
	Effective	Repartition (%)	Effective	Repartition (%)	Effective	Repartition (%)
Academic knowledge	183	49,10	92	24,70	29	7,80
Know-how	101	27,10	135	36,20	68	18,20
Networking knowledge	90	24,10	117	31,40	47	12,60
New methods of work	74	19,80	105	28,20	54	14,50
Others	4	1,10	17	4,60	3	0,80
Numbers of respondents	246	66	252	67,60	226	60,60
Total	373	100	373	100	373	100

We were also able to detect an important exchange of new working methods. In some cases, students in economics and management or human resources management transferred new methods of management from their research institutes to firms specialising in various sectors of activities. In other cases, consulting agencies implemented new methods of management in the research institutions through the mediation of the PhD students. Globally, this important transfer of methods from the firms to the research institutes may also be an indicator of a problem-solving oriented context of the production of knowledge within research institutions in the social sciences and humanities. The large part of networking knowledge (“know-who” in the typology of Lundvall and Johnson) which is transferred in both directions during the implementation of a Cifre agreement confirms the hypothesis that an important role of the

7 The typology proposed in this questionnaire was constructed by using a combination of the four types of knowledge proposed by Lundvall and Johnson in 1994: Know-what: this is factual knowledge that can be codified and is comparable to information. Lundvall and Johnson refer to the information learned at school or university. Know-why: this type of knowledge refers to the scientific knowledge that explains the laws of nature and society and corresponds to scientific knowledge and theories. This is more general knowledge corresponding to the functioning of nature and society. Know-how: this is competence: it is tacit and personal knowledge and sub-conscious capabilities. Know-who: this type of knowledge corresponds to knowledge concerning the person or group of persons who possess the different types of knowledge described above. It is a collective form of knowledge.

8 Bilateral exchange of knowledge is exchange of knowledge which takes place in both ways: from the laboratory to the firm, and for the same Cifre, from the firm toward laboratory.

Cifre system is to create and prolong networks of collaboration between the academic and the industrial sphere.

Concerning the repercussions of the Cifre PhDs, a large part of the Cifre projects do not lead to spin-offs (29 % of the global sample). It seems that even if a larger number of Cifre collaborations were linked to a transfer of knowledge, these transfers would not necessarily entail the codification of this knowledge as publications or innovations. In the case of bilateral exchanges, we observed that a larger part of the transfer led to spin-offs, especially in the form of publications. This confirms the importance of the bilateral exchange of knowledge made possible through the mediation of the student. The fact that a large part of the projects did not entail repercussions could also be explained by the fact that innovations in the form of new products, patents or prototypes are not frequent in services (55 % of the cases). Furthermore, researchers in the humanities generally publish less than in the other sciences.

*Table 4: The Repercussions of Cifre<sup>9</sup>*

	Total		Cifre finished at the moment of the survey		Cifre with bilateral exchange of knowledge	
	<i>Effective</i>	<i>Repartition (%)</i>	<i>Effective</i>	<i>Repartition (%)</i>	<i>Effective</i>	<i>Repartition (%)</i>
<b>New products</b>	34	9,1	26	10,2	24	10,6
<b>New processes</b>	91	24,4	60	23,5	68	30,1
<b>Prototypes</b>	30	8,0	22	8,6	24	10,6
<b>Patents</b>	11	2,9	8	3,1	7	3,1
<b>Publications</b>	212	56,8	158	62,0	149	65,9
<b>Conferences, workshops</b>	16	4,3	13	5,1	17	7,5
<b>Organisational innovation</b>	27	7,2	21	8,2	20	8,8
<b>Internet website*</b>	14	3,8	13	5,1	0	0,0
<b>Networks of collaboration*</b>	1	0,3	1	0,4	1	0,4
<b>Organisation of conferences*</b>	2	0,5	1	0,4	1	0,4
<b>Not re- percussions</b>	109	29,2	59	23,1	42	18,6
<b>Total</b>	373	100	255	100	226	100

9 In cases in which the two partners gave different answers to the same question, we considered knowledge transfer to have taken place if one of the two partners signaled the existence of a spin-off.

Coming back to the different effects of the collaboration between universities and firms, improvement of instrumentation and methodology can be observed in Cifre collaborations: Table 2 shows that the use of new tools or news methods has had an impact on the choice of partners, principally for the firms, which chose to collaborate with a particular research institute in order to make use of their methodology or instruments (in 24 % of the cases). Furthermore, in Table 3, we can see that around 15 % of the projects were linked to a bilateral exchange of new work methods. Hence, these exchanges are also linked to the improvement of methods for each partner. In support of this idea, we note (see Table 4) that a large part of the Cifre also resulted in the introduction of new processes (24 % of the Cifre) or organisational methods (7 % of the Cifre) into the firm.

### 4.3 Conflicts

18 % of the Cifre gave rise to conflicts between firms and laboratories. A large part of the conflicts were linked to the difficulty of managing the time constraints of the research institute and the firm because the firm's goals may contradict the objectives of the research institute to finish the PhD in 3 years. Conflicts are also due to a communication problem between the academic world and the firm. In these cases, the student had not played the role of mediator between the firm and the research institute and the translation of knowledge from the point of view of the firm to the research institute became impossible.

*Table 5: The Conflicts*

Type of conflicts	Effective	% of Cifre	% of Conflicts
Difficulty to conciliate the time constraints of the laboratory and the firm	44	11.8	65.7
The firm and the laboratory have some problems to communicate	23	6.1	34.3
The method of work of the firm and the laboratory are different	15	4.0	22.4
Interest in publication and patent are not compatible	7	0.2	1.0
Number of respondents	67	18.0	100

## 5. Conclusion

In this study, we have analysed one specific type of relationship between universities and firms: namely the joint-supervision of PhD students within the Cifre system. We have considered the important role of bilateral relationships between firms and universities.

The role of the student appears to be essential for initiating a large majority of the projects. But these students also play a role during the collaboration, not only by writing their PhDs, but also as mediators between universities and firms and they enable each actor to increase their stock of tacit and/or codified knowledge. The student plays the role of mediator and his/her face-to-face contacts with the different partners diminish the need for direct contact between scientists and industrialists by contributing to knowledge transfer, including tacit knowledge. We also see the development and the creation of new instruments and new methodologies through this system, particularly the implementation of new organisational methods in the firms. Finally, we have noticed that some research networks linking industries and academics have emerged or have been formalised through these particular types of collaborations. The success and the interest of the actors in this system are also an indicator of the existence of new modes of the production of knowledge linked to the training of high level graduate students. Indeed, we observe collaborations between public and private researchers coming from different institutions and often different disciplines coming about through the supervision of Cifre PhD students. However, by definition, the Cifre system concerns applied research, and the majority of the topics of Cifre fellowships are proposed in order to solve problems that arise in firms. Even in the case of Cifre in the humanities we have observed a transfer of work method in public laboratories which seem to fit new mode of the production of knowledge.

This study is, however, limited by a bias due to the low return rate of the questionnaire. Indeed, it is possible that the PhD students, the industrialists and the scientists that did not benefit from this system or experienced conflicts during the collaboration did not answer the questionnaire. We are considering extending this study to the global set of Cifre fellowships since the creation of the system. We consider it necessary to encourage this system of knowledge production in partnerships between universities and firms because it appears to promote the growth of the stock of knowledge of each actor and to further the professional integration of graduates.



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## **Commodification or Rationalization? Yes, please! Technology Transfer Talk in the Canadian Context**

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ELAINE COBURN

There is much scholarship about recent changes in higher education, changes which to some extent appear to be globalized. This includes changes in the subjects that are researched and taught in universities in very different national contexts, like the widespread, relatively recent introduction of ‘women’s studies’ in higher education institutions around the world. Similarly, it includes programmes selfconsciously seeking international convergence at the formal organizational level, like the European adoption of North American Bachelor, Masters, Doctorate model for higher education diplomas. Such transformations are discussed, planned, implemented and experienced in different ways across different national contexts and in varied higher education institutions with particular histories. Nonetheless, important cross-national commonalities may be observed in higher education institutions around the world. In this chapter, I examine proposed changes to one national university system – in Canada – from two perspectives, but with the assumption that the Canadian case speaks to changes in other national systems. By analyzing the same textual data from two different descriptive and analytical macrosociological approaches, one Marxist, the other Weberian, I seek to understand how theory shapes data analysis, that is, how different theoretical models highlight certain processes while making others invisible. What distinct, but arguably complementary, insights may be gained from Marxist and Weberian approaches, when applied to the same empirical object: the contemporary university? In the language of the title of this collection, how do these two theoretical models highlight the adoption of different, global

scripts for higher education reform, in the specific instance of the Canadian higher education system?

In Canada and elsewhere, much of the scholarship about recent changes in higher education is concerned with the “marketization” “commercialization” or “commodification” of the university and its central functions of research and teaching. Drawing upon neo-Marxist models of political economy, these scholars emphasize the ways that universities are increasingly (directly) integrated into the market. For example, they describe the commodification of teaching resources, including the appropriation of teaching materials by the university as licensable intellectual property (Noble 2002), point to the growing role of corporate directors on university governing boards across Canadian universities (Carroll/Beaton 2004), and emphasize high profile cases of corporate sponsors interfering with the academic freedom of university researchers, often with the overt or tacit support of universities (Kurasawa 2002). For these scholars, current changes in higher education can only be understood within the context of contemporary transformations in the global political economy. They contend that the changing balance of class power that is associated with neoliberal forms of “globalization” implies a increasingly prominent role for business in academe, as in other domains. More broadly, they argue that the decline of the welfare state and the nearly global triumph of capitalism – Fukuyama’s (1992) (in)famous “end of History” – means the incorporation of the university, formerly a public institution (at least in the Canadian context) into what Esping-Andersen (1990) would call the “market nexus.” Analytically, these scholars insist, the transformation of higher education must be situated within the historically specific moment of neoliberal globalization.

Neoinstitutionalist scholars also emphasize the extent to which changes in higher education are linked with broader, global trends. However, they take a different theoretical approach, yielding different empirical insights. Specifically, in drawing upon Weberian conceptions of modernity, they emphasize the extent to which universities are self-consciously embarking upon bureaucratic rationalization projects. For researchers operating in this tradition, transformations in university discourse and formal structures, if not in the “loosely coupled” university practices, are about the pursuit of organizational rationality. In broad analytical perspective, these researchers argue, such rationalization may be best understood as mimetic, legitimacy-seeking behaviour by formal organizations operating in what is now a global institutional environment (e.g., Meyer 2000). Thus, for example, the institutionalization of technology transfer offices is understood as a way for national universities to signal their competence, internationally, “in a knowledge soci-

ety". At the same time, the current popularity of the idea of "technology transfer offices" is explained as the purposive formalization and institutionalization of practices that were previously understood as informal activities carried out between individual researchers and industrialists (Krücken 2003: 20). Rather than using the neo-Marxist language of the political economists, neoinstitutionalists talk about the advent of "public-private partnerships", "technology transfer offices" and "the new public management ethos" when describing and explaining recent changes in higher education discourse and practice.

The empirical study at the heart of the proposed paper focusses on the Canadian government-sponsored report *Public Investments in University Research: Reaping the Benefits* (Fortier 1999). Commissioned in October 1998 by the Prime Minister's Advisory Council on Science and Technology, with a mandate "to present a vision and implementation strategy to maximize the economic and social returns to Canada from public investments in university research" (Fortier 1999: V), the Report of the Expert Panel on the Commercialization of University Research is a useful example of "technology transfer" talk within the Canadian context. Against this case, the paper considers both the political economy and neoinstitutionalist approaches, asking: contemporary higher education – commodification or rationalization? The analysis suggests that there are points of nonconvergence, but also areas where the two approaches may be fruitfully synthesized for new insights into the changing terrain of the contemporary university.

## Political Economy

Political economy<sup>1</sup> insists that political events cannot be analysed apart from the economic context in which they are embedded. The corollary is that the economic context is understood, in part, as the result of political processes and is not, for example, seen as the consequence of the automatic workings of the classical liberal economists' "invisible hand". For the purposes of this paper, this means that contemporary politically-mandated changes to universities – in the empirical case, the Canadian government commissioned Report on maximizing the economic returns

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1 The examples in this paper are drawn from Canadian political economy, itself divided among the liberal, socialist and indigeneous "staples" approaches, the last of which emphasizes the ways in which Canada's reliance on the export of staples (primary resources) has shaped the development of the state and the ongoing (under)development of the Canadian economy (Howlett/Netherton/Ramesh 1999: 10-12).

to public investments in universities –is analysed within the context of ascendant neoliberal economic trends privileging markets. At the same time, the Report and others like it, are understood as one step in the political process required to bring about and consolidate neoliberal commitments to an expanding role for the market, this time within the realm of higher education. To borrow neoinstitutional terminology, recent transformations in higher education institutions are, in part, “exogenously given” insofar as they simultaneously express and embody the “neoliberal turn” in the international political economy.

## Neoliberalism

This paper does not seek to provide a detailed analysis of neoliberalism. Rather, it is enough to observe here that neoliberalism involves a “privileging of markets”, ideologically and in practice, linked to the increasing power of capital vis-a-vis both the state and the working classes.<sup>2</sup> In Western countries, the rise of neoliberalism is generally associated with the economic crises of the 1970s and the decline of the Keynesian welfare state. However, the triumph of markets extends virtually worldwide to include the former Communist countries and the “global South”, many of which undertake neoliberal reforms as part of “structural adjustment plans” mandated by international loaning agencies like the International Monetary Fund and World Bank. Importantly, the “privileging of markets” as an expression of capital’s growing power is felt across a range of domains, only one of which is the university setting. Thus, for example, the implementation of neoliberal policy might include such initiatives as:

- the reorientation of subsistence farmers towards production for the international market;
- the privatization of formerly public services, like health care and daycare;
- the implementation of trade rules to allow the buying and selling of plant varieties; and

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2 This is the old-fashioned use of the term “market”, to mean the buying and selling of commodities. As such, it should be distinguished from the neoinstitutionalist use of the term, which refers to a (non-capitalist) market of “workable identities” (Meyer/Rowan 1978: 93) based upon a “currency” of “standardized, trustworthy” social types that are “free from local anomalies”. For neoinstitutionalists, teachers participate in this kind of market, which matters precisely because it is social and non-economic. To this, political economists would respond that even teachers and professors sell their labour power!

- the elimination of national controls on speculative capital movements.

Through such processes of privatization, commodification, and liberalization, these policies (re)introduce the market into spaces that were formerly outside the “market nexus”, strengthening the hand of capital against both the state and workers. The “provisional result” (Carroll 2004: 11) of such policies has been “an enhancement of corporate power across a wide range of domains” and the “promot(ion) and consolidat(ion of) the regime of neoliberal globalization” in different locales.

## Neoliberalism and Universities

Within the realm of higher education, the neoliberal privileging of markets takes specific forms. Many of these transformations are at least partly fuelled by declining funds for higher education, symptomatic of the “neoliberal tendency to systematically undercut the [...] fiscal foundations of all public services” (Kurasawa 2002: 331). Thus, Carroll/Beaton (2004: 197) finds that more Canadian universities have corporate representation on their governing boards in the 1990s than in the 1970s and that university presidents are increasingly likely to retire from their positions to become members of the “corporate elite”. The presence of corporate directors on university boards is helpful, Carroll speculates, for massive fundraising campaigns intended to counteract declining state funding. At the same time, universities have adopted techniques of “corporate managerialism”, including benchmarking through “performance indicators” (Kurasawa 2002: 337), as they self-consciously “mimic large-scale corporations” (Drakich/Grant/Stewart 2002: 251), which are assumed to be more effective and efficient than their public sector counterparts. In this way, declining revenues are coupled with concerns about “efficiency” and demonstrating universities’ relevance to the “real world” (Kurasawa 2002: 337), typically (re-)interpreted as responsiveness to private capital. Indeed, higher education institutions are said to play a “strategic role” in attracting capital, as states compete as sites for domestic and foreign investment within a “global, knowledge-based economy” (Kurasawa 2002: 336). In sum, structurally, in terms of managerial styles and with respect to national economic strategies, universities are reconceptualized within (international) market-based contexts and logics.<sup>3</sup>

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3 It is worth noting that the “global knowledge-based society” is both a reality, linked with the relative growth of the tertiary service-based sector versus resource extraction and manufacturing (Kurasawa 2002: 336), and



In the meantime, there are striking transformations in universities' teaching and research roles, similarly reflecting the universities new, tighter links, rhetorically and in practice, with for-profit mechanisms. Teaching is *proletarianized* as hiring of tenure-track faculty declines in favour of (cheaper) part-time faculty (Drakich/Grant/Stewart 2002: 249) more vulnerable to market exigencies. In a parallel process, teaching is *commodified* as the professor-student relationship is (increasingly) transformed into alienated "course materials" that are sold for profit, for example, through on-line "distance-learning" courses (Noble 2002: 28-29). At the same time, students are reconceptualized as "consumers" rather than "learners" (Drakich/Grant/Stewart 2002: 255), paying increasingly high tuition in order to equip themselves as future "highly-skilled" employees, especially in scientific and technical fields. For its part, research is increasingly reliant on private sponsors (Drakich/Grant/Stewart 2002: 251) and professors are more and more often required to demonstrate the "commercial relevance" of their work for the purposes of receiving grants or promotions, an asymmetrical pressure insofar as private industries are not usually required to furnish proofs of their investment in professorial work (Parizeau in Drakich/Grant/Stewart 2002: 252). Clearly, such transformations are subject to struggle and internal contradictions, as when, for example, students protest corporate representation on university governing boards (Carroll/Beaton 2004: 197). Yet, the decline of the Keynesian welfare state within the context of "neoliberal globalization" has generally taken the form of imported and sometimes applied market logics within higher education – for professors and students, for teaching and research – as with other public services.

## Neoinstitutionalism

For neoinstitutionalists of the world polity school, contemporary modernity is defined by "globalization" – but not of the neoliberal variety. If globalization is partly about increased political, military and economic interdependence (Meyer 2000: 233), it is not only that. Rather, centrally, "globalization" is about "the expanded flow of instrumental culture around the world" (Meyer 2000: 233). In other words, despite significant differences in national and local resources and cultures, nations, organizations and individuals worldwide tend to adopt standardized – or "universalized" – organizational models and scripts (Meyer 2000: 234-235).

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a mobilizing rhetoric, reinforcing the reifying message that "there is no alternative" to neoliberal market-based solutions if nation-states are to successfully compete as sites for investment.

There are scripted forms of nation-state identity and purpose, currently oriented to states as guarantors of welfare provision and individual rights. There are common models of socioeconomic development, grounded in a belief in the centrality of science to “progress” and the more recent neoliberal wave of “markets and privatization” (Meyer 2000: 234). There are shared models of human rights, pertaining to a wide range of groups from ethnic minorities to women to gays and lesbians. Last, but not least, there is a “highly scripted” and central role for education, linked to notions of scientific and economic progress and human rights, whose success is most obvious in the dramatic expansion of educational institutions around the world (Meyer/Ramirez/Soysal 1992). For neoinstitutionalists, the central facts of modernity are thus bureaucratic rationality and the local adoption of exogenously-given ritualized “scripts” for nations, organizations and individuals across a world that is a *society* precisely insofar it is organized around universal, institutionalized cultural norms.

The diffusion of standardized organizational “scripts” is facilitated by modern agents, themselves examples of the world culture’s legitimated subunits, namely, nation-states, organizations and universalized “citizen persons” (Meyer 2000: 237). Such agents self-consciously act upon a desacralized and therefore controllable nature, creating and applying scientific, rational rules that legitimate a wide range of structures and activities, often at significant cost (Meyer 2000: 246). Scientists and professionals are particularly valued as the most “pure” and “extreme” bearers of the “extrasocial truths” of world cultural scripts and models (Meyer 2000: 240), although all individual actors in the contemporary, globalized world are strongly empowered and legitimated. For example, the world is heavily populated by “consultants” who supply simplified world cultural models for subunit adoption, e.g., “quality assurance” programmes for contemporary organizations. The centrality of both the more banal and exalted types of actorhood to contemporary modernity is expressed in the exponential growth of nongovernmental organizations and professional associations worldwide. At the same time, such organizations and associations play a pragmatic role in the rapid diffusion of common world models and scripts, for example, “instructing” nations and organizations on the application of human rights rules, educational models and so on. In sum, world society does not simply arise, rather, it is “built by agentic state and non-state actors, who (often eagerly) participate in [its] formation” (Meyer 2000: 240-242).

## World Culture and Education

Given this vision, world polity scholars writing about education emphasize educational institutions as the dependent variable, arguing that their organizational structures are the bureaucratic concretization of world-wide normative principles that link education to the nation-state and to the state's individual "citizen-member(s)" (Meyer/Ramirez/Soysal 1992: 129), partially via ideas of personal development and national progress. In other words, at a basic level, "the formal structure of educational organizations *responds to* environmental (or societal) categories" (Meyer/Rowan 1978: 105, italics added). By adopting exogenously-given, standardized categories, educational institutions then create uniform types of personnel and curricula (educational institutions acting here, of course, as the independent or mediating variable). For example, "documents [...] *define persons as teachers*" and others as students and determine formalized topics like "business" or "introductory philosophy". Teachers, students and topics so defined are then assembled in specific institutional spaces called "schools" or, as the case may be, universities (Meyer/Rowan 1978: 85-87). According to contemporary world society's functional myth of education, these schools and universities then contribute to personal development that aggregates upwards to improved national economic performance and national "progress" (see, for example, Rubinson/Fuller 1992: 101-102). In sum, educational institutions embody world society ideologies in their structures; they are national and local carriers of normative beliefs operating at a global level. At the same time, they act as "personnel theory" creating categories of credentialed citizen persons, including teachers and students – as noted – but also the exalted actors of the world society, scientists and professionals.

Importantly, as with other organizations, actual teaching practices and learning outcomes may be "decoupled" from the myths represented by a university's formal organizational structure. Empirically, for example, the day-to-day activities of educational institutions may have little to do with national prosperity and achieving scientific-technical "progress." Yet, such decoupling is incidental from the point of view of legitimating the institution, both internally and externally (Meyer and Rowan 1978: 107), only becoming problematic when it is "discovered" by modern actors who then initiate reform efforts (Meyer 2000: 244). Legitimacy – and the social and financial rewards associated with it – lies in the ostentatious, if banal, adoption of formalized rules, roles, sub-units and hierarchies (Meyer 1985: 4-5), not in actual practices or outcomes. Consequently, educational reforms, often initiated during times

of “national setbacks or failures” (Meyer/Ramirez/Soysal 1992: 131),<sup>4</sup> typically result in the rapid, symbolic adoption of new organizational forms but little or no change in organizational practices. In the case of technology transfer, for example, many universities quickly adopted the new discourse and policies, including creating technology transfer offices, but “without risking too much [actual] institutional change” (Krücken 2003b: 332).<sup>5</sup> In this way, universities demonstrate their sensitivity to changing perceptions of the role of the university (in this case, in “the knowledge society”) while maintaining traditional everyday functions. Ideologically, universities are “about” rationality and functionality, but they are best understood *ironically*, that is, as myths of rationality and functionality.

### **Analysing the Report of the Expert Panel on the Commercialization of University Research: A Political Economy Approach**

The Canadian government sponsored *Report of the Expert Panel on the Commercialization of University Research* (Fortier 1999) – hereafter “the Report” – was commissioned by the Prime Minister’s Advisory Council on Science and Technology, with a mandate to “present a vision and implementation strategy to maximize the economic and social returns to Canada from public investments in university research” (Fortier 1999: V). Reflecting neoliberal priorities, the Report interprets this broad mandate rather narrowly to mean developing policies that will facilitate the commodification of publicly-funded research. For political economists, the choice of this approach is grounded both in the broader “neoliberal turn” in the international political economy and in the interests represented by the nine-member Expert Panel (hereafter, the Panel), since a significant proportion of the Panel members are drawn from the finance capital and industry sectors (including, for example, René Dou-

4 Of course, educational reforms are initiated during such times precisely because educational systems are seen, ideologically, as central to national stability and prosperity.

5 Neoinstitutionalists expect local practices to change, over time, but as a result of the spread of normative values held at the world level, not as a result of local policies (Meyer 2000: 244). For example, they would expect measures of technology transfer to show increases in technology transfer in the medium and longer term, but they would interpret such increases as the local penetration of diffuse values concerning the importance of making research marketable, not as the result of technology transfer policies, which they argue play a symbolic, rather than “functional” role.

ville of the Royal Bank of Canada and Claudine Simson, Vice President of Global External Research and Intellectual Property of Nortel Networks (Fortier 1999: IV)).<sup>6</sup> In this way, the Report reflects the growing power and representation of capital in contemporary neoliberal political economies. At the same time, the Report is itself an example of the political support required for “free-market” practices, in this case, in the form of a government-sponsored proposal for procedures and rules to encourage the production of knowledge for the marketplace.

## Universities as Sites for Wealth Creation

More specifically, political economists would observe that the Report strikingly conceptualizes universities as sites for wealth-creation, with higher education playing a privileged role in making the Canadian state more attractive to foreign and domestic capital within the context of increasing international competition. In the words of the Report, “we need to manage the public investment in university research *as a strategic national asset*” (Fortier 1999: 34, italics added), especially in a climate where “other countries have also concluded that they need to be world class at exploiting knowledge” (Fortier 1999: 10). The way to achieve this, of course, is through programmes to foster “innovation”, defined as “the process of bringing new goods and services to market” (Fortier 1999: 1). Indeed, the task of establishing such programmes is urgent if Canada is to prosper within the global economy:

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6 The other members of the Panel are: 1. Pierre Fortier (Chair), Senior Advisor to the Chairman, Innovitech Inc. Innovitech Inc.’s “mission is to foster and guide the development, commercialization and implementation of innovative technological solutions and help businesses and institutions use the full potential of their strategic assets.” (Innovitech 2004). 2. Denis N. Beaudry, President and General Manager of Polyvalor Inc.. Polyvalor, previously known as Univalor, is “la société à capital de risque créée [...] pour donner vie aux découvertes des laboratoires de l’Université de Montréal et de ses partenaires” (Université de Montréal 2002). 3. Michael Brown, President, Nepal Management Ltd. Brown is a venture capitalist, holding various positions including Chairman of Chrysalix Energy Management, a venture fund (Vancouver Enterprise Forum 2003). 4. Dr. Thomas A. Brzustowski, President, Natural Sciences and Engineering Research Council of Canada. 5. Dr. Julia Levy, President and CEO QLT PhotoTherapeutics Inc., a for-profit pharmaceutical company with funding from the American pharmaceutical enterprise Cynamid (science.ca 2001). 6. Dr. Robert C. Miller Jr., Director of Technology Transfer and Associate Vice-Provost for Research, University of Washington. 7. Dr. James W. Murray, Senior Associate Vice President – Partnerships and Innovation Program (sic), University of Alberta.

“We have no time to lose in establishing the conditions necessary to enable universities to perform to their full potential in commercializing the results of publicly funded research. Canada’s ability to maintain a high standard of living and prosper in the global knowledge-based economy is critically dependent on our ability to find innovative solutions to the medical, environmental, social and economic challenges of the 21<sup>st</sup> century.” (Fortier 1999: 9)

In other words, Canada’s ability to compete internationally depends upon successfully fostering research *for profit*. Programmes to encourage the commercialization of publicly funded research are described as necessary for the realization of Canada’s economic progress and (so) Canadians’ well-being. Crucially, if universities are (potential) sites for wealth creation and secondarily, for the promotion of social welfare, it is the introduction of the market mechanism that will make this potential realizable.

## Re-orienting the University to the Market

Introducing the market mechanism into the university is a political and “managerial” problem that the Report seeks to resolve through its six major recommendations, each of which contains strong provisions reorienting the university to the production of knowledge for profit. Among other measures, “innovation” or the creation of intellectual property, is placed at the core of university activities. Notably, in order to be eligible for federal funding, universities are required to “identif(y) ‘innovation’ as their fourth mission, in addition to teaching, research and community service”. At the same time, universities are expected to take on broad entrepreneurial functions and provide support for businesses otherwise outside the university jurisdiction. In particular, universities are to “encourage the participation of small and medium-sized enterprises and, where appropriate, support the creation of spin-off companies in commercializing publicly-funded research” (Fortier 1999: 4). In this way, universities assume an active entrepreneurial role within the intellectual property marketplace (Fortier 1999: 5). Moreover, the university’s educational programme, presumably including curriculum, is to be redesigned to encourage entrepreneurship and business-oriented faculty and students. Specifically, the universities’ “educational resources” are to be mobilized “to develop the people with the necessary entrepreneurial, business and technical skills required to increase the number of successful innovations created from the results of university research”. Both existing federal funding for universities and new funding – equal to five percent of the Canadian government’s existing investments in university

research – are to be mobilized or diverted for these purposes, all of which place market mechanisms at the core of university functions.

## Re-Orienting Professors and Students to the Market

Similarly, the provisions of the Report reorient researchers and students to the market, in which they are expected to actively participate. The Report authors anticipate that professors, as rational economic actors maximizing their self-interest, will quickly see the benefits of commercializing research, which is to be achieved, in part, via university “technology transfer” offices: “(O)nce these [technology transfer] offices create wealth among researchers, the culture within Canadian universities will change quickly and innovation will become a real priority” (Fortier 1999: 5). In the event that economic self-interest is not sufficient, however, universities “must provide incentives to encourage their faculty, staff and students engaged in research to create IP”, not least by ensuring, “appropriate recognition of innovative researchers in tenure and promotion policies” (Fortier 1999: 4). Significantly, such positive incentives are complemented by disincentives for those who fail to comply: researchers who receive federal funding and fail to “promptly disclose” all intellectual property “with commercial potential” are to be “denied access to future federal research funding” (Fortier 1999: 4). Thus, faculty involvement in the intellectual property market is to be “encouraged” through a variety of methods, including incentives related to tenure and financial “disincentives” for noncompliance.

Students are subject to a variety of similar, if less binding, provisions. Graduate students are to be involved in “industrially relevant undertakings”, with the understanding that such involvement “provide(s) educational experiences which better position students to become effective *entrepreneurs* and productive *employees*” (Fortier 1999: 9, italics added). Undergraduates are to participate in “student internship programmes” in technology transfer offices, so “developing future talent” in the area of research commercialization (Fortier 1999: 30). At the same time, universities are advised to make special efforts to “ensure that all engineering and science students have access to and are encouraged to participate in business courses”. Finally, in parallel, the Report recommends that, “business students [...] have the opportunity to add value to science-based innovations” through unspecified mechanisms operating in “the university at large” (Fortier 1999: 30). In this way, students are to have their studies partially reoriented to business concerns, so becoming better trained for future participation in the intellectual property market, both as entrepreneurs and as “highly skilled” employees.

## Circumscribing the Market

Notwithstanding the Report's overall emphasis on the university as a site for wealth-creation and the Panel's emphasis on institutional, professorial and student involvement in the production of knowledge for profit, the Report does leave spaces – in principle – for the university's traditional non-market activities. Thus, at several intervals, the Report authors insist that:

“Canadian universities perform three core functions which make a tremendous contribution to our standard of living and quality of life: research, teaching and community service.” (Fortier 1999: 9)

Lest the Report be misinterpreted with respect to this point, the Panel members' insist that, “*in no way* should this report be interpreted to suggest that universities should pursue innovation at the expense of their other core responsibilities” (Fortier 1999: 10, italics added). Yet, political economists would argue that such claims ring hollow, given the monies, nonfinancial resources, positive incentives for compliance and strong “disincentives” for noncompliance provided for in the Report. For example, the researchers' right – in principle – to publish potentially profitable research findings instead of commercializing them, is – in practice – strongly discouraged when tenure and access to federal funding depend partly upon the researcher's commercialization record. The protections for noncommercial research activity are weak when compared to the strong provisions for research commodification.

The “colonization” of the university by the market implicit in the Report recommendations is expressed in other ways, besides those discussed briefly here. For example, there is considerable onus on universities and researchers to “recognize their responsibility, potential and vested interest” (Fortier 1999: 24) in commercializing intellectual property, but no similar demonstration is required by firms. As the Report puts it, “one entity is held accountable for maximizing returns to the public – universities” (Fortier 1999: 29). At the same time, business interests are held to be consistent with the success of universities and, indeed, with the wellbeing of Canadians: university administrators are assured that by “maximizing” firms' profits or “value”, they will “maximize the social and economic returns to Canada as well as to themselves” (Fortier 1999: 14). This concern for the interests of capital, the driving force of the neoliberal project, is perhaps most evident in the fifth Report recommendation, which is the “wholesale review” (Fortier 1999: 32) of Canada's tax system. Among the specific proposals con-



tained in the recommendation are the lowering personal income taxes on “the top rates of marginal tax paid” (Fortier 1999: 31) in order to create the “competitive business conditions” conducive to “the success of firms” (Fortier 1999: 21) within the context of international competition, especially from the United States. In sum, the Report is an expression of the relative of strength of capital in an era of neoliberalism; its recommendations are the historically specific translation of free market ideology – and free markets – into the university.

### **Analysing the *Report of the Expert Panel on the Commercialization of University Research*: A Neoinstitutionalist Approach**

From the neoinstitutionalist point of view, the Canadian government sponsored *Report of the Expert Panel on the Commercialization of University Research* is a good example of elaborated modern actorhood and its role in the diffusion of standardized cultural models for diverse organizations, in this case, nations and universities. The Report is a “blueprint” (Fortier 1999: V) for higher education reform, explicitly based “(u)pon review of best practices” (Fortier 1999: 11) in Canada, other G-7 countries and especially the United States, which serves as the “benchmark” (Fortier 1999: 2) for the Report authors. Moreover, university reform along lines already adopted in other nations is consistently described as “critical” both to reversing Canada’s “slipping” standard of living and to securing future success “in a knowledge society” (Fortier 1999: 1,7), reflecting the central role attributed to education as the engine of national economies in contemporary world society, particularly in times of (perceived) national difficulty. Not least, all of this is undertaken by the high priests of modernity, professionals and scientists: five of the nine Panel members are “doctors” of various type. In sum, the Report is typical of the mimetic “consultant” work performed by highly empowered modern actors who, first, draw upon and so reinforce existing cultural scripts that posit a central role for educational in national economic progress while, second, importing and so diffusing models of “technology transfer” that are already standard in other nations, all within the framework of a more general script concerning the advent of “a knowledge society.”

## **The Problem – ad hoc Technology Transfer Policies and Practices**

Throughout the Report, the authors insist that one of the basic problems for technology transfer within the Canadian context is the “environment of laissez-faire” that governs research-based innovation. Within Canada, they note, successes and good practices have been developed (Fortier 1999: 3). Yet, the Report authors warn, this has taken place:

“under varied and inconsistent university policies and practices, and under many different organizational arrangements. Rarely has innovation been treated as a mainstream university function, and the importance attached to it varies greatly among the universities.” (Fortier 1999: 3)

In short, one of the central problems for commercialization in Canada is inconsistency and variability in universities’ “technology transfer” policies and practices, including differences in the relative emphasis given to such activities by different higher education institutions. This type of variability constitutes a major “structural barrier” (Fortier 1999: 18) to successful technology transfer.

The Report identifies many specific problems associated with the inconsistencies in Canadian universities’ commercialization policies and practices (Fortier 1999: 19-20). For instance, the Report maintains that such variability, and its associated unpredictability, discourages commercialization by Canadian businesses, who are reluctant to negotiate commercialization agreements given “uncertainty and risk” about who actually owns title in any specific instance. At the same time, the Report claims that the current system encourages expensive lawsuits since parties sign agreements “without professional qualifications and experience”, leading to litigious disagreements about profit sharing. Moreover, the variability of university commercialization policies limits “industry-academic collaboration by creating a disincentive to the formation of [...] consortiums”, mainly due to the reluctance of firms to navigate “the complex web of IP ownership policies in Canada”. In short, the Report suggests that the lack of standardization in Canadian commercialization policies and practices creates uncertainties that hinder the participation of enterprise, who are reluctant to collaborate with university researchers in commercialization endeavours without formalized, uniform rules governing the technology transfer process.

## The Context – ‘the Knowledge Society’

Throughout the Report, the Panel members insist that the absence of a coherent federal technology transfer programme for universities and businesses is a significant barrier to the successful commercialization of research; in their words, the status quo is no longer “tolerable” (Fortier 1999: 20). This is especially true, they argue, given the importance of research commercialization to national economic performance and (therefore) to social progress within the context of the global “knowledge society”:

“The Panel believes that the federal government’s *laissez-faire* approach with respect to disclosure requirements and IP ownership is not adequate. In the knowledge-based economy, where economic and social advantage is increasingly the function of our ability to translate scientific discoveries into market opportunities, *we cannot afford the present haphazard and unprofessional approach to managing our investment in knowledge.*” (Fortier 1999: 21, second italics added)

In other words, *ad hoc* technology transfer practices and policies considered troublesome at any particular historical moment become particularly devastating in the contemporary “knowledge society.” Indeed, because of the presumed centrality of knowledge production to “high value-added economic activity, which is in turn linked with “new wealth and improve(d) social conditions”, barriers to commercialization represent barriers to national economic growth and social progress (Fortier 1999: 7). Under such circumstances, technology transfer practices in Canada require “a bold new approach” (Fortier 1999: 34).

## The Solution – Rationalization

Predictably, to neoinstitutionalists, the proposed “bold new approach” is rationalization: the creation of a uniform, national policy that will enable the Canadian government to efficiently “*manag(e)* our investment in knowledge” (Fortier 1999: 21, italics added), so “generating social and economic benefits for years to come” (Fortier 1999: 34). In typically mimetic fashion, most of the rationalizing provisions suggested are borrowed from “world leaders” in technology transfer, notably meaning the United States but also including Canadian universities engaged in exemplary “best practices”. Like their American counterparts, for example, Canadian universities are advised to create “commercialization offices”, otherwise known as “Business Development Offices, University-Indus-

try Liaison Offices or Technology Transfer Offices”. The aim of such offices is to provide firms with “an effective point of entry into universities” while aiding researchers by granting them “substantial support to commercialize the results of their research”. Following existing best practices, such offices are to be equipped with a mission statement, clear innovation policies, annually-planned “innovation strategies” and a standardized means to “evaluate their past performance”. Moreover, they are to provide a wide range of “educational” documents to firms, governments, researchers and other “relevant stakeholders”, including “guide books, Web sites, faculty courses and faculty orientation packages” (Fortier 1999: 11). Proactive networking with firms and researchers is yet another assigned responsibility. Such elaborate, costly and (purposively) unoriginal measures are to be undertaken with one objective in mind: making Canadian universities “world class” (Fortier 1999: 12) in the area of technology transfer.

### **The Personnel Problem – Amateurism**

Complementing the theme of rationalization at the institutional level is the theme of the professionalization at the level of university actors. Thus, in the same way that the Report laments the existing “haphazard” approach to research commercialization, it singles out the unfortunate amateurism of researchers seeking to commercialize their own scientific findings. The Panel observes that “scientists are understandably less familiar [than staff at technology transfer offices] with the needs and opportunities in the marketplace” (Fortier 1999: 12). Yet, if this is “understandable” it is also problematic, as when, for example, “individual researchers, more experienced in science than in business, commercialize their own research results. Acting, as noted earlier, “without professional qualifications and experience”, the risk of such “amateur” commercialization efforts is that business partners and others will litigate, e.g., as inexperienced faculty “negotiat(e) exclusive licences with multiple firms” and commit other legal errors. The potential result of such unprofessionalism is “lasting ill feelings and mistrust between the academic and industrial communities” (Fortier 1999: 20), complicating prospects for future collaboration between the two domains on technology transfer issues. In this way, the lack of professionalism by university faculty in the area of commercialization is seen as a major barrier to successful technology transfer.

## The Personnel Solution – Professionalization

Yet, such barriers are not without solutions. Professorial amateurism is to be replaced by a professionalized “team” of commercialization office workers (Fortier 1999: 49-50), including a new type of professional, the “technology commercialization specialist” or “TCS”. In the prototypical commercialization office proposed by the Report authors, thirteen of these “‘senior’ professionals” are to act as the core office staff, operating in specialized roles with titles like “technology commercialization manager”, “spin-off company manager” and “prototype development program manager.” Further staff divisions are to be based on disciplinary areas, with a “team” consisting of a manager and assistant for each academic unit, for example, the Faculty of Medicine, the Faculty of Science. In this way, the proposed new organizational culture for “technology transfer” is complemented by a range of new professional roles; instrumental organizational reforms are accompanied by the creation of a novel type of credentialed person.

Inevitably, such personnel is to be active in a host of professional undertakings. A “national association of commercialization offices” is to be created, with the responsibility of “sponsor(ing) conferences, workshops and seminars to bring practitioners together,” while also “develop(ing) training courses” and other professional activities, like the publication of “shared communications materials” (Fortier 1999: 30). In order to enable TCSs to “share knowledge” outside of the proposed annual congress, the national association is to organize “national and regional networks” (Fortier 1999: 32), so affording TCSs the opportunity to engage in continuous professional development. Acquiring and maintaining the “necessary combination of skill requirements” (Fortier 1999: 11), is to be the result of ongoing education, training, and formal networking. The new type of individual, the technology commercialization specialist, therefore assumes her place within a rationalized, formalized institutional framework – and she does so with the special legitimacy of the educated “professional”.

Ironically, the “bold new approach” proposed by the consultants who authored the Report is firmly inscribed within a long tradition, first, of positing educational institutions as central to national progress, in this case, in the context of “the knowledge society” and second, of suggesting highly visible formal organizational reforms that serve as a signal of institutional “seriousness”, precisely because they (unoriginally) embody easily-recognizable “world society” norms. Technology transfer offices are modelled on existing technology transfer offices and nations rhetorically vaunt their “world leadership” once they have successfully

copied the organizational forms and policies of existing world leaders. New personnel are created, carrying the weight of professional legitimacy with them, but their importance lies in their symbolic contribution to the self-conscious project of institutional (university) reform – not in the more or less tightly coupled practices they may carry out to accomplish that reform. Rationalization is the guiding principle for the Panel’s recommendations; the Report is a thoroughly modern project in that respect, reflecting a world society that is resolutely rational-scientific, not in its functions, but in its shared norms and culture.

## Conclusions

There can be no final arbitration between the political economy view and the neoinstitutionalist understanding of “technology transfer talk”, as exemplified in the Canadian report on *Public Investments in University Research: Reaping the Benefits*. Political economists will see the Report as part of a (dangerous) colonization of the university by the for-profit world, within the context of a near-global neoliberalism, even while they acknowledge that the Report leaves important spaces- in theory, but not in practice – for university research, teaching and community service missions outside of the “market nexus.” To these thinkers, the significant weight given to industry and finance capital among the members of the Report’s Panel is symptomatic of the new, enhanced role for capital in a world of neoliberal hegemony. Indeed, the Report consistently seeks to consolidate the reach of the market into spaces that were formerly uncommodified, for example, by positing the university as a site for wealth creation and by creating strong incentives for the university, professors and students to engage in for-profit research. This logic of commodification is not confined to the university setting, but is applied by agencies like the World Trade Organization to genes, water and other former “commons”, transforming them into private *property*, to be bought and sold on the market. Insofar as this is the case, the Report represents one instance of a broader “neoliberal turn” in the international political economy, with the increased power of capital and market hegemony translated into policies for commodification, privatization and liberalization.

Neoinstitutionalists, at least of the variety pioneered by John Meyer and his colleagues, will see the Report as (yet another) example of nations and organizations seeking to signal their legitimacy within a “world society”, this time via the ritual invocation of the links between higher education and national economic performance within the con-

temporary global “knowledge society.” In the neoinstitutionalist view, the Report authors’ prescriptions for institutional rationalization and the creation of new categories of administrative personnel, among other recommendations, are the ostentatious signs of Canada’s willingness to join in on the latest modern project, this time via the adoption of the “technology transfer” scripts and a rationalized organizational culture. The Report is thus an example of the local reproduction of standardized world society models, this time applied to universities. To borrow the language of political economy, the Report is a clear demonstration of ideological “hegemony”, but it is the hegemony of rational-scientific norms and only incidentally, of rationalized market models.

If no final arbitration between the two theories is possible, what, then, can be concluded from all this? Beyond the obvious statement that theory vitally shapes what is visible and invisible in any piece of “data” – as well as profoundly shaping data interpretation – it might be argued that, in some areas at least, both rationalization and commodification processes are occurring. For example, the Report’s (proposed) rationalization of higher education links with private industry, can be understood as rationalization along neoliberal lines. “Rationalization”, in this case, has *direction* which is conditioned, if not determined, by the underlying changes in contemporary political economies along neoliberal lines – lines that expand the role of the market in spaces that were previously outside the “market nexus,” including higher education. Rationalization takes place, but that rationalization assumes a historically specific form within “late” capitalism – or at least the latest, neoliberal phase of capitalism.

Similarly, both political economists and neoinstitutionalists can agree on the centrality of the “script” concerning the (supposed) exigencies posed by the advent of “a global knowledge society”, for both nations and academia. For political economists, the “global economy” is both a real constraint and a rhetorical tool to constrain the field of action so that only markets appear as a realistic, potential “solution”. For neoinstitutionalists, the same rhetoric matters both because it serves to reinforce a shared world narrative and because it implies certain, standardized responses, in the empirical case, the creation of “technology transfer offices.” Thus, at the level of description, both types of scholars agree on the importance of such internationalized “scripts” for ordering shared understandings, whether this shared understanding is called “ideology/hegemony” or described as “normative/cultural.” Moreover, political economists and neoinstitutionalists both insist, albeit in somewhat different ways, that such rhetorics *order* experience by implying standardized organizational models. Such scripts have *effects*, even if they

are not, in the neoinstitutionalist eyes, linked directly to practices. Political economists and neoinstitutionalists share some common descriptive ground.

Ultimately, however, such attempts at synthesis reach their limits, with political economists and neoinstitutionalists tackling the dynamics of rationalization and commodification in distinct ways. Political economists drawing their inspiration directly from Marx and Adam Smith – a seemingly unlikely pair! – might well argue that proposed rationalization of higher education is in large part inspired by the drive towards commodification: one way to increase profits, traditionally, is by rationalizing production and so, potentially, making it more efficient (as Smith famously ‘observed’ regarding the rationalization of a pin factory and as Marx repeatedly underlined when discussing the unprecedented productivity of capitalism compared to other modes of production). Efficient commodification of knowledge within the university ‘requires’ or stimulates rationalization, although the extent to which this is actually efficient in higher education institutions – especially given the traditional difficulties of controlling the production of white collar workers – is an open empirical question. Commodification, in this view, is causally prior to rationalization, which should not be overestimated as fundamental to contemporary changes in the university.

Neoinstitutionalists, on the other hand, might bend the ‘cultural turn’ of their argument, with its emphasis on a norms and scripts in a world *society*, in a more microsociological direction to recast the notion of commodification – insofar as it exists within a university setting – as a cultural phenomena, rather than a political or economic one. If commodification is occurring within the university, isn’t this as much about the adoption of new standardized values, norms and mores as it is about the absorption of the university into a for-profit marketplace? Drawing inspiration from anthropology as much as Weber, a microsociological approach with elective affinities for the neoinstitutionalist emphasis on shared cultural values would investigate ‘commodification’ as the creation of a new kind of moral environment within the university. Scholars who emphasize the advent of a new audit society might be an example of this approach. In this way, different theoretical preoccupations lead to different kinds of substantive preoccupations and conclusions.

The concern here has been at the macrosociological level, but significant differences between the two approaches compared here would reveal themselves if each model were to tackle the question of variations in higher education systems across different national and institutional settings. Political economists would emphasize that there are varieties of capitalism in the world today and would therefore anticipate differences



in the extent to which national university systems proposed, and especially put into practice, various measures oriented towards the commodification of university knowledge. Resistance to neoliberal proposals like the Canadian report analysed here would depend, in this view, on the configuration of the welfare state, itself the ongoing historical result of the balance of class forces, and the state's relative ability to resist pressures from capital. Specific institutional-level accommodation and resistance to proposed neoliberal changes might depend on the level of organized mobilization among, for example, university professors and university students (a reminder that professionalized subjects created via rationalized bureaucracies may also become the basis for organized social movements of resistance).<sup>7</sup> Neoinstitutional approaches, in contrast, would seek to explain national and institutional differences with reference to national and local cultures, seeking to understand the loose coupling between world society norms and national and local practices via detailed case studies of particular systems (e.g. the influence of Humboldt's ideals on the historical configuration of the German university system).

Ultimately, however, deciding between the political economic understanding of the world as a capitalist system and the neoinstitutionalist version which emphasizes the emergence of a modern world society is perhaps, a political choice, as much as a theoretical one. Thus, theoretically, political economists would charge neoinstitutionalists with an inability to explain the *content* of rationalization efforts, like the one around "technology transfer": why is so much technology transfer talk oriented to commercialization, for example, when it is just as possible to imagine debates centering on the need to eliminate tuition in order to facilitate the diffusion of "scientific" ideas from the academia into a public composed (in part) of current or former students? Similarly, variations among national and local university systems are, in this view, best explained as being about the balance of forces in an ongoing class struggle, a superior explanatory and analytical approach when compared with vague allusions to 'loose coupling' that posit a world society whose norms and values are established through mysterious, unnamed processes, on the one hand, and national and local societies, whose cultural values are the apparently wholly idiosyncratic products of particular historical accretions, on the other. To political economists, only by taking

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7 For an account of the transformation of a bureaucratic organization into a movement – contrary to Michels' thesis that organizations become less political and more conservative over time – see Cormier (2004) on the radicalization of the Canadian Sociology and Anthropology Association in the early 1970s.

into account market forces and class struggle can sociological theorists go beyond historical *description* to provide an *explanation* for social *dynamics*. Politically, political economists would go on to defend their vision by insisting that it is critical to understand the world as a system of unequal (class) relations engaged in constant struggle, with the university just one terrain of that struggle, if there is to be real, dramatic, positive social change. Lest it be forgotten, they might conclude, this is a struggle with major human consequences: the battle over the provision of AIDS medications, redefined as intellectual (pharmaceutical) property, is just one example.

On the other hand, neoinstitutionalists advocate the right to regard the world ironically, distanced from hyperactive actorhood and functionalist explanations grounded in theories of conflicting “special interests.” The political economy view, in neoinstitutionalist eyes, demonstrates a lamentable lack of sociological imagination when it comes to central social facts like actorhood, bureaucratic rationality and faith in science. Politically, an Illichean variant of the neoinstitutionalist approach would reclaim the right to make visible rationalization processes that are inherently dehumanizing<sup>8</sup>. Turned in a slightly different direction, this anti-bureaucratic stance might be combined with a plea to reject actorhood altogether, in order to embrace a pre-modern (Catholic) fatalism. But debating the ways in which such political choices are bound up with theoretical commitments is ultimately outside the scope of this paper, which, for the purposes of the exercise, has adopted the view of the Marx brothers: “Commodification or rationalization? – yes please!”.

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8 Illich (e.g., 1971) argues, for example, that rationalized educational systems turn individuals into pupils, that is, passive recipients of formalized lessons taught by certified professional teachers. Students are deprived of their natural status as active learners, since it becomes illegitimate to learn alone or with peers, outside the sanctioned, and sanctified, classroom. Similarly, rationalized, professionalized health care tends to reinforce illness, not health, as responsibility for well-being is redefined as the provision of specialized health care workers in narrow institutional settings. Implicitly, then, Illich’s response is to call for informal learning and health care among interested ‘amateurs’ in nonbureaucratic settings – in this way, individuals can reclaim their status as unique, capable *actors*, responsible for their own learning and wellbeing in nonstandardized and therefore authentic ways.

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